

1 WILLIAM L. ANTHONY (State Bar No. 106908)  
2 ERIC L. WESENBERG (State Bar No. 139696)  
3 HEIDI L. KEEFE (State Bar No. 178960)  
4 ORRICK, HERRINGTON & SUTCLIFFE, LLP  
5 1000 Marsh Road  
6 Menlo Park, CA 94025  
7 Telephone: 650-614-7400  
8 Facsimile: 650-614-7401

9 STEVEN ALEXANDER (admitted *Pro Hac Vice*)  
10 KRISTIN L. CLEVELAND (admitted *Pro Hac Vice*)  
11 JAMES E. GERINGER (admitted *Pro Hac Vice*)  
12 JOHN D. VANDENBERG  
13 KLARQUIST SPARKMAN, LLP  
14 One World Trade Center, Suite 1600  
15 121 S.W. Salmon Street  
16 Portland, OR 97204  
17 Telephone: 503-226-7391  
18 Facsimile: 503-228-9446

19 Attorneys for Defendant and Counterclaimant,  
20 MICROSOFT CORPORATION

21 UNITED STATES DISTRICT COURT  
22 NORTHERN DISTRICT OF CALIFORNIA  
23 OAKLAND DIVISION

24 INTERTRUST TECHNOLOGIES  
25 CORPORATION, a Delaware corporation,  
26 Plaintiff,

27 v.

28 MICROSOFT CORPORATION, a  
29 Washington corporation,  
30 Defendant.

31 MICROSOFT CORPORATION, a  
32 Washington corporation,

33 Counterclaimant,

34 v.

35 INTERTRUST TECHNOLOGIES  
36 CORPORATION, a Delaware corporation,  
37 Counter Claim-Defendant.

CASE NO. C01-1640 SBA

**MICROSOFT CORPORATION'S  
PATENT LOCAL RULE 4-2  
DISCLOSURE OF PRELIMINARY  
CLAIM CONSTRUCTION AND  
EXTRINSIC EVIDENCE (LIMITED  
TO "MINI-MARKMAN" CLAIMS)**

1 Pursuant to Patent Local Rule 4-2 and this Court's Order, entered November 5, 2002,  
2 Defendant Microsoft Corporation ("Microsoft") hereby serves its "Disclosure Of Preliminary  
3 Claim Construction And Extrinsic Evidence," limited to the twelve selected "Mini-Markman"  
4 patent claims. Microsoft's preliminary claim construction is based upon the proposed terms,  
5 phrases and clauses, and claims as a whole, identified by the parties in their submissions in  
6 accordance with Patent Local Rule 4-1(a) and conference in accordance with Patent Local Rule 4-  
7 1(b).

8 Microsoft provides its preliminary claim construction of each of the 12 "Mini-Markman"  
9 claims subject to the limitations and reservations of rights set forth herein. Microsoft does not  
10 waive any defenses that the asserted claims fail to satisfy the provisions of 35 U.S.C. § 112  
11 including, for example, the written description requirement, the definiteness requirement, or any  
12 other requirement for patentability. Microsoft does not concede that the asserted claims are  
13 supported by Plaintiff's original application or any application from which they purportedly claim  
14 priority. Specifically, by offering a construction of a term, Microsoft does not waive any defense  
15 that the claim is in fact indefinite and there can be no proper construction.

16 Microsoft provides its preliminary claim construction in the following format. Exhibit A  
17 sets forth Microsoft's preliminary construction of (1) the claim term "virtual distribution  
18 environment" ("VDE"), (2) the "VDE invention" disclosed in the February, 1995, InterTrust  
19 patent application, and (3) certain other claim terms. Exhibit B sets forth Microsoft's preliminary  
20 construction of the disputed claims as a whole, and particular claim phrases in dispute, in the  
21 order of appearance in a claim. Where an individual claim term (within a phrase) is also in  
22 dispute, it will be bold-faced in Exhibits A and B. Exhibit C sets forth Microsoft's preliminary  
23 construction of the individual terms in dispute, in alphabetical order.

24 Microsoft reserves the right to modify its preliminary claim constructions in the event that  
25 the parties are unable to agree upon a particular claim construction. Furthermore, because  
26 InterTrust has not yet fully complied with the disclosure requirements of Patent Local Rules 3-1  
27 and 3-2, Microsoft expressly reserves the right to amend its preliminary claim construction if  
28

1 evidence becomes available through those disclosures (or that should have been provided therein)  
2 that would support amended constructions. Microsoft further reserves the right to amend its  
3 preliminary claim constructions once it has an opportunity to review InterTrust's preliminary  
4 claim constructions and once the parties have further met and conferred as required.

5  
6 Preliminary Identification of Evidence in Support of Claim Construction

7 Microsoft's preliminary claim construction is supported by the intrinsic record of the  
8 seven U.S. patents from which the 12 "Mini-Markman" claims are selected. For the purposes of  
9 submission of this preliminary claim construction only, Microsoft treats the "intrinsic" evidence  
10 as including: 1) the specifications of each of the seven U.S. patents at issue in the "Mini-  
11 Markman" proceeding, including any material purportedly incorporated by reference therein;  
12 2) the prosecution history of each of the seven patents at issue, including the applications and  
13 prosecution history of the seven patents and any related patent applications, including without  
14 limitation, applications purportedly incorporated by reference or to which an application claimed  
15 priority; and 3) all references cited in the prosecution of any such applications. In accordance  
16 with the local rules, this evidence is not specifically identified, except to the extent that Microsoft  
17 asserts particular sections of a patents' specifications provide "structure" for claims properly  
18 construed under 35 U.S.C. § 112(6).

19 In certain circumstances, Microsoft's preliminary construction may be supported by  
20 extrinsic evidence presently available to Microsoft. Microsoft reserves the right to modify or  
21 supplement with evidence that it has not yet been able to fully review, due to InterTrust's  
22 production, including without limitation, InterTrust re-production of over 1,000,000 pages on  
23 November 4, 2002. Microsoft reserves the right to supplement with additional evidence gathered  
24 in the course of the discovery collected between now and the close of "claim construction"  
25 discovery or later submitted by InterTrust in full compliance with its disclosure obligations under  
26 Patent Local Rules 3-1 and 3-2. Extrinsic evidence is identified or produced in accordance with  
27 the local rule and set forth in the following exhibits:

1 Exhibit D: Contains copies of excerpts from dictionaries and other publications. Due to  
2 the volume of the appended pages, Exhibit D will be served via Federal Express.

3 Exhibit E: Contains a list of selected production documents, identified by initial bates  
4 number.

5 Exhibit F: Contains a list of selected, uncited prior art publications, identified by bates  
6 number(s).

7 Exhibit G: Contains a list of selected, uncited prior art patents, identified by bates  
8 number(s).

9 In addition to the extrinsic evidence cited in Exhibits D-G, Microsoft incorporates by  
10 reference herein and reserves the right to rely upon: 1) all documents identified by InterTrust in  
11 response to discovery or pursuant to the Patent Local Rules; 2) all InterTrust patents,  
12 publications and other things that are prior art to any Mini-Markman claim; and 3) the testimony  
13 of InterTrust and the witnesses identified below.

14  
15 Preliminary Identification of Witnesses<sup>1</sup>

16 **Professor John Mitchell:** Dr. Mitchell will testify of the following matters:

17 1) that certain of the presently disputed terms and phrases used in the twelve claims are  
18 amorphous terms lacking a well-defined, precise meaning that can accurately be gleaned from  
19 technical or other dictionaries. Rather, these terms are used in the art and/or in the patents in a  
20 manner that requires close consideration of the entire patent specification to put them in proper  
21 context and determine their precise, correct meaning as used in the patents. These terms include  
22 "secure container," "control," "govern," "protect," "protected processing environment," "secure,"  
23 "securely," "security," "virtual distribution environment";

24 2) that the concepts stated in the InterTrust patents were known to the art, including the  
25 cited prior art, which cited art he will describe;

26  
27 <sup>1</sup> In accordance with the local rules, Microsoft identifies witness testimony that it contends will  
28 support its construction. It has not identified herein testimony relevant to the "tutorial" to be held  
prior to the claim construction hearing.

1 3) the level of skill, background, and understanding (including extent thereof) of the  
2 relevant patent application disclosures by a person of skill in the art; and

3 4) the meaning and scope certain disputed claim language, including "secure container,"  
4 "control," "govern," "protect," "protected processing environment," "secure," "securely,"  
5 "security," and "virtual distribution environment."

6 **Professor David Maier:** Dr. Maier will testify on the following matters:

7 1) what the February 13, 1995, patent application (SN 08/388,107) and the seven  
8 InterTrust patents, described as the "invention;" more particularly, what are the required,  
9 necessary, non-optional features of the "VDE" "invention" as stated in the patents. This  
10 description will include an explanation of the features set forth in Microsoft's "Global  
11 Constructions" (Exhibit A).

12 2) what the February 13, 1995, patent application (SN 08/388,107) and the seven  
13 InterTrust patents, required as necessary, non-optional building blocks to implement the "VDE"  
14 "invention" as stated in the patents.

15  
16 Dated: December 20, 2002

17  
18 By: 

19 WILLIAM L. ANTHONY  
20 ERIC L. WESENBERG  
21 HEIDI L. KEEFE  
22 ORRICK HERRINGTON & SUTCLIFFE, LLP  
1000 Marsh Road  
Menlo Park, CA 94025  
Telephone: 650-614-7400

23 STEVEN ALEXANDER  
24 KRISTIN L. CLEVELAND  
25 JAMES E. GERINGER  
26 JOHN D. VANDENBERG  
KLARQUIST SPARKMAN, LLP  
One World Trade Center, Suite 1600  
121 S.W. Salmon Street  
Portland, OR 97204  
Telephone: 503-226-7391

MICROSOFT CORPORATION'S PATENT LOCAL  
RULE 4-2 DISCLOSURE (LIMITED TO "MINI-  
MARKMAN" CLAIMS), CASE No. C 01-1640 SBA

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

Attorneys for Defendant  
MICROSOFT CORPORATION

Of Counsel:  
T. Andrew Culbert, Esq.  
Microsoft Corporation  
One Microsoft Way  
Building 8  
Redmond, WA 98052-6399  
Telephone: 425-882-8080

- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25
- 26
- 27
- 28

4 On December 20, 2002, at 3:00 p.m., I served on counsel for InterTrust Technologies  
5 Corporation:

8 by email delivery to:

<p>Michael H. Page, Esq.          John W. Kecker, Esq.          Jon B. Streeter, Esq.          Kecker &amp; Van Nest, LLP          710 Sansome Street          San Francisco, CA 94111          Telephone: 415-391-5400          Facsimile: 415-397-7188          Email: <a href="mailto:mhp@kvn.com">mhp@kvn.com</a></p>	<p>Douglas Derwin          InterTrust Technologies Corporation          4800 Patrick Henry Drive          Santa Clara, CA 95054          Telephone: 408-855-0100          Facsimile: 408-855-0144          Email: <a href="mailto:dderwin@intertrust.com">dderwin@intertrust.com</a></p>
<p>Steven H. Morrissett, Esq.          Finnegan Henderson Farabow          Garrett &amp; Dunner          Stanford Research Park          700 Hansen Way          Palo Alto CA 94304-1016          Telephone: 202-408-4000          Facsimile: 202-408-4400          Email: <a href="mailto:steven.morrissett@finnegan.com">steven.morrissett@finnegan.com</a></p>	

22 Executed on December 20, 2002, at Portland, Oregon.

(SIGNATURE)

Kristin L. Cleveland

Microsoft PLR 4-2, Exhibit A: Mini Markman Preliminary Claim Construction – Global

Below is Microsoft's preliminary construction of the "Virtual Distribution Environment" ("VDE") "invention" of the February 13, 1995, InterTrust application (the "VDE invention") and certain other terms, which constructions are incorporated by reference into Microsoft's preliminary construction of certain other disputed claims, claim terms, and claim phrases.<sup>1</sup>

Required Feature	Construction
Security and Commerce World	InterTrust's February 13, 1995, patent application described as its "invention" a Virtual Distribution Environment ("VDE invention") for securing, administering, and auditing all security and commerce digital information within its multi-node world (community). VDE guarantees to all VDE "participants" identified in the patent application that it will maintain the availability, secrecy, integrity and authenticity of all such information present at any appliance (node) within the VDE world (including protected content (including currency, credit, payments, etc.), information about content usage, content-control information, controls, load modules, etc.). VDE is secure against at least the threats identified in the patent application to this availability (no user may delete the information without authorization), secrecy (neither available nor disclosed to unauthorized persons or processes), integrity (neither intentional nor accidental alteration), and authenticity (asserted characteristics are genuine). VDE further provides and requires the components and capabilities described below. Anything less than or different than this is not VDE or the described "invention."
VDE Secure Processing Environment	At each node where VDE-protected information is accessed, used, or assigned control information, VDE requires a Secure Processing Environment. A Secure Processing Environment is uniquely identifiable, self-contained, non-circumventable, and trusted by all other VDE nodes to protect the availability, secrecy, integrity and authenticity of all information identified in the patent application as being protected, and to guarantee that such information will be accessed and used only as expressly authorized by the associated VDE controls. A Secure Processing Environment is formed by, and requires, a special-purpose Secure Processing Unit having a hardware tamper-resistant barrier encapsulating a processor and internal secure memory. The barrier prevents all unauthorized interference, removal, observation, and use of the information and processes within it. A Secure Processing Environment is under control of controls and control information provided by one or more parties, rather than being under control of the appliance's users or programs.
VDE Controls	VDE allows access to or use of protected information and processes only through execution of (and satisfaction of the requirements imposed by) independent,

<sup>1</sup> The word "invention" is used not to suggest that anything described in InterTrust's patents in fact was novel or non-obvious or inventive, but rather to identify what was described as the alleged invention. Also, features and capabilities are described as they are described in the InterTrust patent application, even though the patent application did not describe an actual working system having any of these capabilities. Also, Microsoft's proposed constructions use many terms from the InterTrust patents that are used inconsistently or otherwise indefinitely in the patents. Those terms are used by Microsoft in their narrowest applicable sense, and without waiving the right to assert the indefiniteness of this claim language. Also, the preliminary constructions assume (without conceding) that the February, 1995, InterTrust patent application was incorporated by reference into the '721, '861, and '683 patents, effectively for claim construction purposes. If the Court concludes otherwise, then the proper constructions will be different in some cases. Bolded terms are preliminarily defined in Exhibits A-C of Microsoft's PLR 4-2 papers.



Required Feature	Construction
	<p>special-purpose, executable VDE control(s). A VDE control can execute only within a Secure Processing Environment. Each VDE control is a component assembly dedicated to a particular activity (e.g., editing, modifying another control, a user-defined action, etc.), particular user(s), and particular protected information. Each separate information access or use is independently controlled by independent VDE control(s). Each VDE control is assembled, within a Secure Processing Environment, from independently deliverable modular components (e.g., load modules or other controls), dynamically in response to an information access or use request. The dynamic assembly of a control is directed by a "blueprint" record (put in place by one or more VDE users) containing control information identifying the exact modular code components to be assembled and executed to govern this particular activity on this particular information by this particular user(s). Each control is independently assembled, loaded and delivered vis-à-vis other controls. Control information and controls are extensible and can be configured and modified by all users, and combined with any other VDE control information or controls (including that provided by other users), subject only to "senior" user controls. Users can assign control information and controls to an arbitrarily fine, user-defined portion of the protected information, such as a single paragraph of a document, as opposed to being limited to file-based controls. VDE controls reliably limit use of the protected information to authorized activities and amounts.</p>
VDE Secure Containers	<p>A VDE secure container is a self-contained, self-protecting data structure which (a) encapsulates information of arbitrary size, type, format, and organization, including other, nested, containers, (b) cryptographically protects that information from all unauthorized access and use, (c) provides encrypted storage management functions for that information, such as hiding the physical storage location(s) of its protected contents, (d) permits the association of itself or its contents with controls and control information governing access to and use thereof, and (e) prevents such use or access (as opposed to merely preventing decryption) until it is opened. A secure container can be opened only as expressly allowed by the associated VDE control(s), only within a Secure Processing Environment, and only through decryption of its encrypted header. A secure container is not directly accessible to any non-VDE calling process. All such calls are intercepted by VDE. The creator of a secure container can assign (or allow others to assign) control information to any arbitrary portion of a secure container's contents, or to an empty secure container (to govern the addition of contents to the secure container, and access to or use of those contents). A container is not a secure container merely because its contents are encrypted and signed. A secure container is itself secure. All VDE-protected information (including protected content, information about content usage, content-control information, controls, and load modules) is encapsulated within a secure container whenever stored outside a Secure Processing Environment or secure database.</p>
Non-Circumventable	<p>VDE is non-circumventable (sequestered). It intercepts all attempts by any and all users, processes, and devices, to access or use (e.g., observe, interfere with, or remove) protected information, and prevents all such attempts other than as allowed by execution of (and satisfaction of all requirements imposed by) associated VDE controls within Secure Processing Environment(s).</p>
Peer to Peer	<p>VDE is peer-to-peer. Each VDE node has the innate ability to perform any role identified in the patent application (e.g., end user, content packager, distributor, clearinghouse, etc.), and can protect information flowing in any direction between any nodes. VDE is not client-server. It does not pre-designate and restrict one or more nodes to act solely as a "server" (a provider of information (e.g., authored content, control information, etc.) to other nodes) or "client" (a requestor of such information). All types of protected-content transactions can proceed without requiring interaction with any server.</p>
Comprehensive Range of	<p>VDE comprehensively governs all security and commerce activities identified in the patent application, including (a) metering, budgeting, monitoring, reporting, and auditing information usage, (b) billing and paying for information usage, and (c) negotiating, signing and enforcing contracts that establish users' rights to</p>

Required Feature	Construction
Functions	access or use information.
User-Configurable	The specific protections governing specific VDE-protected information are specified, modified, and negotiated by VDE's users. For example, VDE enables a consumer to place limits on the nature of content that may be accessed at her node (e.g., no R-rated material) or the amount of money she can spend on viewing certain content, both subject only to other users' senior controls.
General Purpose; Universal	VDE is universal as opposed to being limited to or requiring any particular type of appliance, information, or commerce model. It is a single, unified standard and environment within which an unlimited range of electronic rights protection, data security, electronic currency, and banking applications can run.
Flexible	VDE is more flexible than traditional information security and commerce systems. For example, VDE allows consumers to pay for only the user-defined portion of information that the user actually uses, and to pay only in proportion to any quantifiable VDE event (e.g., for only the number of paragraphs displayed from a book).

Microsoft PLR 4-2, Exhibit B: Mini Markman Preliminary Claim Construction – Claim Terms<sup>1</sup>

Claim Term	Preliminary Construction
access, accessed, access to, accessing	Establishing the connections, routings, and security requisites needed to physically obtain something. Access to protected information is required, but insufficient, for use of that information. In VDE, access to protected information is achieved only through execution (within a Secure Processing Environment) of the VDE control(s) assigned to the particular “access” request, satisfaction of all requirements imposed by such execution, and the controlled opening of the secure container containing the information.
addressing	Referring by specific location or individual name to something without physically storing it.
allowing, allows	Actively permitting an action that otherwise cannot be taken (i.e., is absolutely prohibited) by any user, process, or device. In VDE, an action is allowed only through execution (within a Secure Processing Environment) of the VDE control(s) assigned to the particular action request, and satisfaction of all requirements imposed by such execution.
applying . . . in combination	[This shall be construed in connection with a disputed claim phrase.]
arrangement	[This shall be construed in connection with a disputed claim phrase.]
aspect	[This shall be construed in connection with a disputed claim phrase.]
associated with	1. A specific, direct, persistent, and binding relationship with one or more discrete items. Code that processes information but is merely a general-purpose component of an installation is not “associated with” that information. In VDE, an association between a unit of executable code and particular information, or between particular control information and a secure container, cannot be broken except as allowed by execution (within a Secure Processing Environment) of assigned VDE control(s) and satisfaction of all requirements imposed by such execution. 2. Associations in VDE are created with a component assembly, a secure container, a Secure Processing Environment, “object registration,” and other mechanisms of VDE for (allegedly) individually ensuring the “access control” “handcuffs” between specific controls, specific objects (and their content at an arbitrary granular level), and specific users.

<sup>1</sup> The word “invention” is used not to suggest that anything described in InterTrust’s patents in fact was novel or non-obvious or inventive, but rather to identify what was described as the alleged invention. Also, features and capabilities are described as they are described in the InterTrust patent application, even though the patent application did not describe an actual working system having any of these capabilities. Also, Microsoft’s proposed constructions use many terms from the InterTrust patents that are used inconsistently or otherwise indefinitely in the patents. Those terms are used by Microsoft in their narrowest applicable sense, and without waiving the right to assert the indefiniteness of this claim language. Also, the preliminary constructions assume (without conceding) that the February, 1995, InterTrust patent application was incorporated by reference into the ‘721, ‘861, and ‘683 patents, effectively for claim construction purposes. If the Court concludes otherwise, then the proper constructions will be different in some cases. Bolded terms are preliminarily defined in Exhibits A-C of Microsoft’s PLR 4-2 papers.

Claim Term	Preliminary Construction
authentication	The act of verifying credentials designed to vouch for the authenticity of the identity, data integrity, and origin integrity of a person, device, program, information, or process.
authorization information, not authorized, not authorized	<p>authorized: An action is permitted that otherwise cannot be taken (i.e., is absolutely prohibited) by any user, process, or device. In VDE, an action is authorized only through execution of the applicable VDE control(s) within a VDE Secure Processing Environment and satisfaction of all requirements imposed by such execution.</p> <p>authorization information: "Control information" identifying the exact modular code components to be assembled into a VDE control and executed within a Secure Processing Environment to permit a particular activity that otherwise cannot be taken (i.e., is absolutely prohibited). ("Control information" is information which identifies the exact modular code components and data which must be assembled and executed to control a particular activity on particular information, of arbitrary, user-defined granularity, by particular user(s)).</p> <p>"not authorized": The action is prohibited and cannot be taken by any user, process, or device.</p>
budget control; budget	<p>budget: A unique type of "method" that specifies limitations on future usage (e.g., copying) of digital information and how such usage will be paid for, if at all. (A "method" is a collection of basic instructions, and information related to basic instructions, that provides context, data, requirements, and/or relationships for use in performing, and/or preparing to perform, basic instructions in relation to the operation of one or more electronic appliances.)</p> <p>budget control: A VDE control assembled using a budget, and enforcing that budget. No process, user, or device is able to make the use identified by the budget once the budget's specified limitation on that use has been met.</p>
can be	Something is permitted that otherwise cannot happen (i.e., is absolutely prohibited).
capacity	Available storage space that is still capable of allocation. For example, a 650 MB blank CD, after sealing, has zero capacity because no new material may be stored within it.
clearinghouse	A computer system that provides intermediate storing and forwarding services for both content and audit information, and which two or more parties trust to provide its services independently because it is operated under constraint of VDE security. "Audit information" means all information created, stored, or reported in connection with an "auditing" process. "Auditing" means tracking, metering and reporting the usage of particular information or a particular appliance.
compares, comparison	A processor operation that evaluates two quantities and sets one of three flag conditions as a result of the comparison – greater than, less than, equal to.
component assembly (2)	A cohesive executable component created by a channel which binds or links together two or more independently deliverable load modules, and associated data. A component assembly is assembled, and executes only within a VDE Secure Processing Environment. A component assembly is assembled dynamically in response to, and to service, a particular content-related activity (e.g., use request). Each VDE component assembly is assigned and dedicated to a particular activity, particular user(s), and particular protected information. Each component assembly is independently

Claim Term	Preliminary Construction
	assembled, loadable and deliverable vis-à-vis other component assemblies. The dynamic assembly of a component assembly is directed by a "blueprint" record containing control information for this particular activity on this particular information by this particular user(s). Component assemblies are extensible and can be configured and reconfigured (modified) by all users, and combined by all users with other component assemblies, subject only to other users' "senior" controls.
contain, contained, containing	Physically storing within, as opposed to addressing.
control (n.), controls (n.) (2 - 193:1,11,15,19, 891:1)	VDE allows access to or use of protected information only through execution of (and satisfaction of the requirements imposed by) independent, special-purpose, executable VDE control(s). A VDE control can execute only within a Secure Processing Environment. Each VDE control is a component assembly dedicated to a particular activity (e.g., editing, modifying another control, a user-defined action, etc.), particular user(s), and particular protected information. Each separate information access or use is independently controlled by independent VDE control(s). Each VDE control is assembled within a Secure Processing Environment from independently deliverable modular components (e.g., load modules or other controls), dynamically in response to an information access or use request. The dynamic assembly of a control is directed by a "blueprint" record (put in place by one or more VDE users) containing control information identifying the exact modular code components to be assembled and executed to govern this particular activity on this particular information by this particular user(s). Each control is independently assembled, loaded and delivered vis-à-vis other controls. Control information and controls are extensible and can be configured and modified by all users, and combined by all users with any other VDE control information or controls (including that provided by other users), subject only to "senior" user controls. Users can assign control information (including alternative control information) and controls to an arbitrarily fine, user-defined portion of the protected information, such as a single paragraph of a document, as opposed to being limited to file-based controls. VDE controls reliably limit use of the protected information to authorized activities and amounts.
controlling, control (v.)	<ol style="list-style-type: none"> <li>1. Reliably defining and enforcing the conditions and requirements under which an action that otherwise absolutely cannot be taken, will be allowed, and the manner in which it may occur. Absent verified satisfaction of those conditions and requirements, the action cannot be taken by any user, process or device. In VDE, an action is controlled through execution of the applicable VDE control(s) within a VDE Secure Processing Environment.</li> <li>2. More specifically, in VDE, controlling is effected by use of VDE controls, VDE secure containers, and VDE foundation (including VDE Secure Processing Environment, "object registration," and other mechanisms for allegedly individually ensuring that specific controls are enforced vis-à-vis specific objects (and their content at an arbitrary granular level) and specific "users.")</li> </ol>
copied file	A digital file which has been copied at least once, not the copy itself. A "copy" is what is formed by a copying operation, and it may or may not be encrypted, ephemeral, usable, or accessible.
copy, copied, copying (v.)	To duplicate a digital file or other complete physical block of data from one location on a storage medium to another location on the same or different storage medium, leaving the original block of data unchanged, such that two distinct and independent objects exist. Although the layout of the data values in physical storage may differ from the original, the resulting "copy" is logically indistinguishable from the original. The resulting "copy" may or

Claim Term	Preliminary Construction
	may not be encrypted, ephemeral, usable, or accessible.
copy control	A VDE control which controls some access to or use of a copy.
creating, creation	[This shall be construed in connection with a disputed claim phrase.]
data item	An individual unit of information representing a single value, such as that stored in a field of a larger record in a database. It is the smallest useful unit of named information in the system.
derive, derives	To retrieve from a specified source.
descriptive data structure	A machine-readable data structure (e.g., text file, template, secure container, etc.) containing or addressing descriptive information (e.g., metadata, shorthand abstract representation, integrity constraints, rules, instructions, etc.) about (1) the layout, generic format (e.g., location of a particular type of information), attributes, or hierarchical structure (e.g., file hierarchy) of the contents section of one or a family of other data structure(s) (e.g., secure container, other rights management related structure, etc.), (2) the operations or processes used to create or use such other data structure(s) (e.g., rules for handling the data structure), and/or (3) the consequences of such operations (e.g., billing the user a certain fee for printing). The descriptive data structure is capable of being used to create or handle (e.g., read, locate information within, request information from, and/or manipulate) the other data structure(s). The descriptive data structure is not associated with the other data structure(s) and does not contain or specify its particular contents (e.g., "Yankees Win the Pennant!").
designating	[This shall be construed in connection with a disputed claim phrase.]
device class	The generic name for a group of device types. For example, all display stations belong to the same device class. A device class is different from a device type. A device type is composed of all devices that share a common model number or family (e.g. IBM 4331 printers).
digital file	A static unit of storage allocated by a "file system" and containing digital information. A digital file enables any application using the "file system" to randomly access its contents and to distinguish it by name from every other such unit. A copy of a digital file is a separate digital file. (A "file system" is the portion of the operating system that translates requests made by application programs for operations on "files" into low-level tasks that can control storage devices such as disk drives.)
digital signature, digitally signing	Digital signature: An unforgeable string of characters (e.g., bits) generated by a cryptographic transformation to a block of data using some secret, which string can be generated only by an agent that knows the secret, and hence provides evidence that the agent must have generated it. digitally signing: Creating a digital signature using a secret key. (In symmetric key cryptography, a "secret key" is a key that is known only to the sender and recipient. In asymmetric key cryptography, a "secret key" is the private key of a public/private key pair, in which the two keys are related uniquely by a predetermined mathematical relationship such that it is computationally infeasible to determine one from the other.)
entity, entity's control	entity: Any person or organization.

Claim Term	Preliminary Construction
environment	entity's control: Control created, modified, or selected by any person or organization to control a particular use of or access to particular protected information by a particular user(s).
executable programming, executable (2)	[This will be construed in connection with other disputed claim terms.] executable: A cohesive series of machine code instructions in a format that can be loaded into memory and run (executed) by a connected processor. executable programming: A cohesive series of machine code instructions, comprising a computer program, in a format that can be loaded into memory and run (executed) by a connected processor. (A "computer program" is a complete series of definitions and instructions that when executed on a computer will perform a required or requested task.)
execution space, execution space identifier	execution space: A processor-addressable physical memory into which data and executable code can be loaded, which is assigned to a single executing process while that process is actively executing. Memory holding "swapped out" processes or executables is not part of an "execution space." execution space identifier: A value that uniquely identifies a particular execution space.
generating	[This shall be construed in connection with a disputed claim phrase.]
govern, governed, governed item, governing	govern, governing, governed: See control (v.) governed item: Information, of arbitrarily fine granularity, whose access and use by any user, process, or device which is controlled.
halting	Stopping execution of a running (executing) process unconditionally (i.e., without providing any specific condition for resumption). For example, executing an instruction known as a "breakpoint halt instruction."
host processing environment	A processing environment within a VDE node which is not a Secure Processing Environment. A "host processing environment" may either be "secure" or "not secure." A "secure" host processing environment is a self-contained protected processing environment, formed by loaded, executable programming executing on a general purpose CPU (not a Secure Processing Unit) running in protected (privileged) mode. A "non-secure" host processing environment is formed by loaded, executable programming executing on a general purpose CPU (not a Secure Processing Unit) running in user mode.
identifier, identify, identifying	identifier: Any text string used as a label naming an individual instance of what it identifies. identify: To establish as being a particular instance of a person or thing.
including	(With respect to a digital file, control, authorization information, Secure Processing Environment, descriptive data structure, element, load module, header, or secure container): Physically storing within, as opposed to addressing.
information previously stored	Information that once was stored but is no longer stored.

Claim Term	Preliminary Construction
integrity programming	Executable programming that when executed checks and reports on the integrity of a device or process. "Integrity" means the property that information has not been altered either intentionally or accidentally.
key	A bit sequence used and needed by a cryptographic algorithm to encrypt a block of plain text or to decrypt a block of cipher text. A key is different from a key seed or other information from which the actual encryption and/or decryption key is constructed, derived, or otherwise identified. In symmetric key cryptography, the same key is used for both encryption and decryption. In asymmetric or "public key" cryptography, two related keys are used; a block of text encrypted by one of the two keys (e.g., the "public key") can be decrypted only by the corresponding key (e.g., the "private key").
load module (2)	An executable, modular unit of machine code suitable for loading into memory for execution by a processor. A load module is encrypted (when not within a Secure Processing Unit) and has an identifier that a calling process must provide to be able to use the load module. A load module is combinable with other load modules, and associated data, to form executable component assemblies. A load module can execute only in a VDE protected processing environment.
machine check programming	Executable programming that when executed generates a unique "machine signature" which distinguishes the physical machine from all other machines. This machine check programming code sometimes is invoked by integrity programming.
metadata information (2 (metadata))	Data that describes other data managed within an application or environment, such as its meaning, representation in storage, what it is used for and by whom, context, quality and condition, or other characteristics. Metadata may describe data elements or attributes (name, size, data type, etc) and data about records or data structures (length, fields, columns, etc) and data about data (where it is located, how it is associated, ownership, etc.).
opening secure containers	Establishing the requisites needed to attempt to access the contents of a secure container. Opening is a necessary but insufficient step before the contents of a secure container may be copied, decrypted, read, manipulated, or otherwise used, or accessed. No process, user, or device may access or use the contents of a secure container without first opening that secure container. A secure container may be opened only through execution of the assigned VDE control(s) within a VDE Secure Processing Environment and satisfaction of all requirements imposed by such execution.
operating environment	See processing environment.
organization, organization information, organize	organization, organization information: The manner in which data is represented and laid out in physical storage. For example, for data organized as records: the field hierarchy, order, type and size. organize: Representing and laying out data in a particular manner in physical storage.
portion	[This shall be construed in connection with a disputed claim phrase.]
prevents	Imposes an active restraint on an action such that it absolutely cannot occur by any means or under any circumstances.
processing environment (2 - 912:35, 900:155, 721:34)	A standardized, well-defined, self-contained, computing base, formed by hardware and executing code, that provides an "interface" and set of resources which can support different applications, on different types of hardware platforms. In the context of claim 35 of the '912 patent: a Secure Processing



Claim Term	Preliminary Construction
	Environment
protected processing environment (2 - 721:34)	<p>1. A uniquely identifiable, self-contained computing base trusted by all VDE nodes to protect the availability, secrecy, integrity and authenticity of all information identified in the patent application as being protected, and to guarantee that such information will be accessed and used only as expressly authorized by VDE controls. At most VDE nodes, the protected processing environment is a Secure Processing Environment which is formed by, and requires, a hardware tamper-resistant barrier encapsulating a special-purpose Secure Processing Unit having a processor and internal secure memory. ("Encapsulated" means hidden within an object so that it is not directly accessible but rather is accessible only through the object's restrictive interface.) The barrier prevents all unauthorized (intentional or accidental) interference, removal, observation, and use of the information and processes within it, by all parties (including all users of the device in which the Protected Processing Environment resides), except as expressly authorized by VDE controls. A Protected Processing Environment is under control of controls and control information provided by one or more parties, rather than being under control of the appliance's users or programs. Where a VDE node is an established financial clearinghouse, or other such facility employing physical facility and user-identity authentication security procedures trusted by all VDE nodes, and the VDE node does not access or use VDE-protected information, or assign VDE control information, then the Protected Processing Environment at that VDE node may instead be formed by a general-purpose CPU that executes all VDE "security" processes in protected (privileged) mode.</p> <p>2. A Protected Processing Environment requires more than just verifying the integrity of digitally signed executable programming prior to execution of the programming; or concealment of the program, associated data, and execution of the program code; or use of a password as its protection mechanism.</p>
protecting	Maintaining the security of.
record (n.) (2)	A data structure that is a collection of fields (elements), each with its own name and type. Unlike an array, whose elements are accessed using an index, the elements of a record are accessed by name. A record can be accessed as a collective unit of elements, or the elements can be accessed individually.
required	A condition without which an action cannot occur. A required condition acts prospectively - it does not apply to a description created at or after the creation of the object to which it applies.
resource processed	A record containing control information, which record is stored and acted upon within a processing environment.
rule (2)	A lexical statement that states a condition under which access to or use of VDE-protected data will be allowed by a VDE control. A rule may specify how, when, where, and by whom a particular activity on particular information is to be allowed.
secure (2)	A state in which all users of a system are guaranteed that all information, processes, and devices within the system, shall have their availability, secrecy, integrity and authenticity maintained against all of the identified threats thereto. "Availability" means the property that information is accessible and usable upon demand by authorized persons, at least to the extent that no user may delete the information without authorization. "Secrecy" also referred to as confidentiality, means the property that information (including computer processes) is not made available or disclosed to unauthorized persons or processes. "Integrity" means the property that information has not been altered either intentionally or accidentally. "Authenticity" means the

Claim Term	Preliminary Construction
	property that the characteristics asserted about a person, device, program, information, or process are genuine and timely, particularly as to identity, data integrity, and origin integrity.
secure container	A VDE secure container is a self-contained, self-protecting data structure which (a) encapsulates information of arbitrary size, type, format, and organization, including other, nested, containers, (b) cryptographically protects that information from all unauthorized access and use, (c) provides encrypted storage management functions for that information, such as hiding the physical storage location(s) of its protected contents, (d) permits the association of itself or its contents with controls and control information governing access to and use thereof, and (e) prevents such use or access (as opposed to merely preventing decryption) until it is "opened." A secure container can be opened only as expressly allowed by the associated VDE control(s), only within a Secure Processing Environment, and only through decryption of its encrypted header. A secure container is not directly accessible to any non-VDE or user calling process. All such calls are intercepted by VDE. The creator of a secure container can assign (or allow others to assign) control information to any arbitrary portion of a secure container's contents, or to an empty secure container (to govern the later addition of contents to the container, and access to or use of those contents). A container is not a secure container merely because its contents are encrypted and signed. A secure container is itself secure. All VDE-protected information (including protected content, information about content usage, and content-control information, controls, and load module) is encapsulated within a secure container whenever stored outside a Secure Processing Environment or secure database.
secure container governed item	A governed item protected by a secure container. A secure container governed item may not be accessed or used in any way, by any user, process, or device, except as allowed by its associated VDE control(s) executing in a VDE Secure Processing Environment and satisfaction of all requirements imposed by such execution.
secure container rule	A rule protected by a secure container. A secure container rule may not be accessed or used in any way, by any user, process, or device, except as allowed by its associated VDE control(s) executing in a VDE Secure Processing Environment and satisfaction of all requirements imposed by such execution.
secure database	A data store isolated from all users such that it is protected from external observation; and accidental or intentional alteration or destruction. In VDE, a secure database stores tracking, billing, payment, and auditing data until the data is delivered securely to an authorized clearinghouse.
secure execution space	An allocated portion of the secure memory within a special-purpose Secure Processing Unit which is isolated from the rest of the world, and protected from observation by (and encapsulated within) a tamper resistant barrier and protected from alteration by the processor. The processor cryptographically verifies the integrity of all code loaded from secure memory prior to execution, executes only the code that the processor has authenticated for its use, and is otherwise secure.
secure memory, memory	memory: A medium in which data (including executable instructions) may be stored and from which it may be retrieved. "Memory" does not include a "virtual memory." secure memory: A processor-addressable memory within a special-purpose Secure Processing Unit which is isolated from the rest of the world by (and encapsulated within) a tamper resistant barrier. "Processor-addressable" means that a connected processor can use the secure memory's <sup>3</sup>

Claim Term	Preliminary Construction
	physical addresses as the operand in a processor instruction such as LOAD or STORE or equivalent instruction. A "memory" is not a "secure memory" merely because it stores encrypted, signed, and/or sealed data; is accessible from a Protected Processing Environment; or is within an appliance that is located at a trusted facility with non-VDE physical security and user-identity authentication procedures.
secure operating environment, said operating environment	Same as Secure Processing Environment.
securely applying (2 - securely)	securely: Performed in a Secure Processing Environment in a manner that guarantees that each affected information or process remains secure. securely applying: securely (1) executing the applied executables (e.g., controls) within a VDE secure execution space, (2) validating and verifying the authenticity and integrity of each executable, and (3) ensuring that the executables are applied only in ways that are intended by the VDE participants who created the executables.
securely assembling	securely (1) linking or binding plural distinct elements together in a particular manner (specified by authenticated assembly instructions) into a single cohesive executable unit so the elements can directly reference each other element within the resulting assembly, within a VDE Secure Processing Environment, (2) validating and verifying the authenticity and integrity of each element (e.g., that it has not been modified from or substituted for the correct element) immediately prior to binding it into the assembly, and (3) ensuring that the elements are linked together only in ways that are intended by the VDE participants who created the elements and/or specified the assembly thereof.
securely processing	Executing code in a secure execution space to act upon some information, in a manner that ensures that the information and the processing remain secure.
securely receiving	Receiving digital information in a secure container, as part of a communication encrypted on the communications level, at a Secure Processing Environment authenticated in accordance with VDE controls associated with the secure container.
security (2)	See secure.
security level, level of security	An ordered measure of the degree of security. The "security level" is persistent unless expressly noted to exist only some of the time. Also, the combination of a hierarchical classification and a set of nonhierarchical categories that represents the sensitivity of an object or the clearance of a subject. For example, Unclassified, Confidential, Secret, and Top Secret are hierarchical classifications, whereas NATO and NOFORN are non-hierarchical categories defined by the DoD Trusted Computing guidelines.
specific information, specified information	[This will be construed in connection with disputed claim phrases]
tamper resistance (2 - tamper)	tamper resistance: The ability of a tamper resistant barrier to prevent access, observation, and interference with information or processing encapsulated by the barrier.

Claim Term	Preliminary Construction
	tamper: See tampering.
tamper resistant barrier	An active device that encapsulates and separates a Protected Processing Environment from the rest of the world. It prevents information and processes within the Protected Processing Environment from being observed, interfered with, and leaving except under appropriate conditions ensuring security. It also controls external access to the encapsulated secure resources, processes and information. A tamper resistant barrier is capable of destroying protected information in response to tampering attempts.
tamper resistant software	Software that is encapsulated and executed wholly within a tamper resistant barrier.
tampering (2)	Attempting to circumvent a tamper resistant barrier or other mechanism designed to protect against the observation, access, or alteration of data, code, or process execution, or making any unauthorized access, observation, or interference.
use (n.)	Any action with respect to information (e.g., copying, printing, decrypting, executing) other than access. In VDE, information use is allowed only through execution of the applicable VDE control(s) and satisfaction of all requirements imposed by such execution.
user controls (1)	Controls created, modified, or selected by a user to control a particular use or access by the user to particular protected information.
validity	The state in which authenticated data conforms to predetermined completeness and consistency parameters.
virtual distribution environment	See Global Construction of VDE.

**Microsoft PLR 4-2, Exhibit C: Mini Markman Preliminary Claim Construction – Claim Phrases<sup>1</sup>**

Claim Phrase	Microsoft's Preliminary Construction
'193:1 <u>receiving a digital file</u> <u>including music</u>	<p><b>Claim as a Whole:</b> The recited method is performed within a VDE.</p> <p>1. This claim language falls within 35 U.S.C. § 112, ¶ 6. It recites a step or result ("receiving") without reciting an action that achieves that result. The specification does not clearly link any particular action to this recited step. Part of the recited function is performed by Communications Controller 666, I/O Controller 600, SPE 503/SPE 500 (particularly "SPU Encryption/Decryption Engine 522" and NVRAM 534b).</p> <p>2. The qualifier "including music" recites a non-functional descriptive material and is not a patentable limitation.</p> <p>3. The recited function requires: obtaining a VDE secure container encapsulating a digital file, authenticating the intended recipient in accordance with VDE controls associated with the secure container, and accepting the secure container.</p>
a budget specifying the number of copies which can be made of said digital file	<p>1. A budget identifying the total number of copies (whether or not decrypted, long-lived, or accessible) that (since creation of the budget) can be made of the digital file by any and all users, devices, and processes. No process, user, or device is able to make another copy of the digital file once this number of copies has been made.</p>
controlling the copies made of said digital file	<p>1. Controlling uses of and accesses to all copies of the digital file, by all users, processes, and devices, by executing each of the recited "at least one" copy control(s) within VDE Secure Processing Environment(s). Each control governs (controls) only one action, which action may or may not differ among the different "at least one" controls. All uses and accesses are prohibited and incapable of occurring except to the extent allowed by the "at least one" copy control(s).</p>
determining whether said digital file may be copied and stored on a second device based on at least said copy control	<p>1. Determining whether this particular first device is allowed to perform both of the following actions on this particular digital file: (1) copy it and (2) store it (as opposed to a copy of it) on a second device, by executing one or more VDE control(s) (including "said" copy control associated with this digital file) within VDE Secure Processing Environment(s). To the extent that either of these two actions is not determined by this step to be permissible, that action is absolutely prohibited and incapable of occurring, and no user, process or device can perform it on this digital file.</p>

<sup>1</sup> The word "invention" is used not to suggest that anything described in InterTrust's patents in fact was novel or non-obvious or inventive, but rather to identify what was described as the alleged invention. Also, features and capabilities are described as they are described in the InterTrust patent application, even though the patent application did not describe an actual working system having any of these capabilities. Also, Microsoft's proposed constructions use many terms from the InterTrust patents that are used inconsistently or otherwise indefinitely in the patents. Those terms are used by Microsoft in their narrowest applicable sense, and without waiving the right to assert the indefiniteness of this claim language. Also, the preliminary constructions assume (without conceding) that the February, 1995, InterTrust patent application was incorporated by reference into the '721, '861, and '683 patents, effectively for claim construction purposes. If the Court concludes otherwise, then the proper constructions will be different in some cases. Bolded terms are preliminarily defined in Exhibits A-C of Microsoft's PLR 4-2 papers.

Claim Phrase	Microsoft's Preliminary Construction
if said copy control allows at least a portion of said digital file to be copied and stored on a second device	<p>2. This claim limitation's recitation of "said" copy control is inconsistent with the claim limitation "at least one" copy control.</p> <p>1. This "if" condition creates two branches for the recited process, each of which must be performed. Each time the "if" condition is met, all four of the later-recited actions (copying, transferring, storing, playing) must occur. Each time it is not met, each of these four actions must be prohibited and incapable of occurring.</p> <p>2. This "if" condition is met if and only if "said" copy control allows any portion of the digital file to be copied and also allows that same portion of the file (as opposed to the copy) to be stored on any second device. This "if" condition is based entirely on "said copy control" and thus is met, as above, even if other VDE control(s) prohibit those actions.</p> <p>3. This claim limitation's recitation of "copy control allows at least a portion" is inconsistent with the claim limitation "whether said digital file may be copied ... based on at least said copy control."</p>
copying at least a portion of said digital file	<p>1. Copying at least some portion of the digital file (as opposed to a copy thereof), by executing VDE control(s) within VDE Secure Processing Environment(s). This copied "portion" may or may not be (or even include) the portion referred to in the claim limitation "if said copy control allows at least a portion."</p>
transferring at least a portion of said digital file to a second device	<p>1. Transferring to some second device (which may or may not be the "second device" referred to in the claim limitation "if said copy control allows at least a portion of said digital file to be copied and stored on a second device") at least some portion of the digital file (as opposed to a copy thereof), by executing VDE control(s) within VDE Secure Processing Environment(s). This transferred portion may or may not be (or even include) the portion referred to in the claim limitation "if said copy control allows at least a portion," or the portion referred to in the claim limitation "copying at least a portion."</p>
storing said digital file	<p>1. Storing the entire digital file received in the "receiving" step (as opposed to a copy of the file or an incomplete portion of the file).</p> <p>2. This claim limitation's recitation of "storing said digital file" is inconsistent with the claim limitation "transferring at least a portion of said digital file."</p>
<p>193:11</p> <p>receiving a digital file</p>	<p>Claim as a Whole: The recited method is performed within a VDE.</p> <p>1. This claim language falls within 35 U.S.C. § 112, ¶ 6. It recites a step or result ("receiving") without reciting an action that achieves that result. The specification does not clearly link any particular action to this recited step. Part of the recited function is performed by Communications Controller 666, I/O Controller 600, SPE 303/SPU 500 (particularly "SPU Encryption/Decryption Engine 522" and NVRAM 534b).</p> <p>2. The recited function requires: obtaining a VDE secure container encapsulating a digital file, authenticating the intended recipient in accordance with VDE controls associated with the secure container, and accepting the secure container.</p>
determining whether said digital file may be copied	<p>1. Determining whether said first control, by itself, allows this particular first device to perform both of the following actions on this particular digital file: (1) copy it and (2) store it (as opposed to a copy of it) on a second device, by executing the first VDE control within VDE Secure Processing</p>

Microsoft's Preliminary Construction	
Claim Phrase	Environment(s). To the extent that either the copy or store action is not determined by this step to be permissible, that action is absolutely prohibited and incapable of occurring, and no user, process or device can perform it on this digital file.
and stored on a second device based on said first control	
identifying said second device	1. Identifying a second device sufficiently to distinguish it from all other devices, by executing VDE control(s) within VDE Secure Processing Environment(s).
whether said first control allows transfer of said copied file to said second device	1. Whether the first control, by itself, allows the entire digital file (which has been copied at least once) (as opposed to the copy) to be moved to the identified second device. If not, that transfer is absolutely prohibited and incapable of occurring and no user, process or device can perform that action on this file.
said determination based at least in part on the features present at the device	1. Basing the determination at least in part upon all actual, current features of the device (as opposed to previously determined, reported, or measured features) which might affect the device's ability to prevent unauthorized access to and/or use of the digital file. This determination is done without trusting either the device or any user of the device. A device identifier such as a serial number is not a "feature present at the device."
if said first control allows at least a portion of said digital file to be copied and stored on a second device	1. This "if" condition creates two branches for the recited process, each of which must be performed. Each time the "if" condition is met, all four of the later-recited actions (copying, transferring, storing, rendering) must occur. Each time it is not met, each of these four actions must be disabled and prohibited and incapable of occurring. 2. This "if" condition is met if and only if the first control allows any portion of the digital file to be copied and also allows that same portion of the file (as opposed to the copy) to be on any second device. This "if" condition is based entirely on the first control and thus is met, as above, even if other VDE controls prohibit those actions. 3. This claim limitation's recitation of "said first control allows at least a portion" is inconsistent with the claim limitation "whether said digital file may be copied ... based on said first control."
copying at least a portion of said digital file	1. Copying at least some portion of the digital file (as opposed to a copy thereof), by executing VDE control(s) within VDE Secure Processing Environment(s). The copied portion may or may not be (or even include) the portion referred to in the claim limitation "if said first control allows at least a portion."
transferring at least a portion of said digital file to a second device	1. Transferring to some second device (which may or may not be the "second device" referred to in the claim limitation "if said first control allows at least a portion of said digital file to be copied and stored on a second device") at least some portion of the digital file (as opposed to a copy thereof), by executing VDE control(s) within VDE Secure Processing Environment(s). The transferred portion may or may not be (or even include) the portion referred to in the claim limitation "if said first control allows at least a portion," or the portion referred to in the claim limitation "copying at least a portion."
storing said digital file	1. Storing the entire digital file received in the "receiving" step (as opposed to a copy of the file or an incomplete portion of the file).

Microsoft's Preliminary Construction	
Claim Phrase	2. This claim limitation's recitation of "storing said digital file" is inconsistent with the claim limitation "transferring at least a portion of said digital file."
'193:15	Claim as a Whole: The recited method is performed within a VDE.
receiving a digital file	1. See 193:11. This step must proceed in both "authentication branches" of the process (i.e., regardless of the outcome of the "authentication" step).
an authentication step comprising:	1. Authenticating the first device and/or user of the first device without relying on trusting either, by executing VDE control(s) within VDE Secure Processing Environment(s).
accessing at least one identifier associated with a first device or with a user of said first device	1. Securely accessing at least one identifier associated with a single ("first") device or (as opposed to "and") with a single, current user of that device, by executing VDE control(s) within VDE Secure Processing Environment(s). One of the "at least one identifier" may be associated with a first device while another of the "at least one identifier" may be associated with a user of said first device.
determining whether said identifier is associated with a device and/or user authorized to store said digital file	1. For each accessed "at least one identifier," determining whether the device with which it is associated is one on which the file may be stored (by any user) and/or whether the user with which it is associated is one who may store the file (on any device), by executing VDE control(s) within VDE Secure Processing Environment(s). Each identifier may be associated with a device "and" a user, or with a device only, or with a user only. 2. This claim limitation's recitation of "said identifier" is inconsistent with the claim limitation "at least one identifier."
storing said digital file in a first secure memory of said first device, but only if said device and/or user is so authorized, but not proceeding with said storing if said device and/or user is not authorized	1. This conditional step creates at least two "authentication" branches for the recited process, each of which must be performed. Each time the condition is met, the recited "storing" must occur. Each time it is not met, the recited "storing" must not occur. 2. If "storing" proceeds, then: storing in a secure memory of the first device, the entire file received in the "receiving" step, as opposed to a copy of the file or an incomplete portion of the file, by executing VDE control(s) within VDE Secure Processing Environment(s). If "storing" does not proceed: then the file is not stored in the secure memory of the first device, and is absolutely prevented from being stored anywhere on the first device. 3. This limitation is internally inconsistent on the circumstances under which the storing proceeds or does not proceed. For example, the first ("only if") phrase requires that the storing step proceeds if the device is authorized (and the user is not) while the second ("but not") phrase requires that the storing step not proceed if the device is authorized (and the user is not).
storing information associated with said digital file in a secure database stored on said first device, said information including	1. Storing information in a secure database, the entirety of information (including the "at least one control") being associated with the digital file (as opposed to the file's contents independent of the file), by executing VDE control(s) within VDE Secure Processing Environment(s). 2. This step must proceed in both "authentication branches" of the process (i.e., regardless of the outcome of the "authentication" step).



Microsoft's Preliminary Construction	
Claim Phrase	
at least one control	
determining whether said digital file may be copied and stored on a second device based on said at least one control	<p>1. Determining whether the "at least one control," by itself or themselves, allow(s) this particular first device to perform both of the following actions on this particular digital file: (1) copy it and (2) store it (as opposed to a copy of it) on a second device, by executing "said at least one control," by executing the "at least one" VDE control within VDE Secure Processing Environment(s). To the extent that either the copy or store action is not determined by this step to be permissible, that action is absolutely prohibited and incapable of occurring, and no user, process or device can perform it on this digital file.</p> <p>2. This step must proceed in both "authentication branches" of the process (i.e., regardless of the outcome of the "authentication" step).</p>
if said at least one control allows at least a portion of said digital file to be copied and stored on a second device,	<p>1. This "if" condition creates two branches for each of the two "authentication branches" of the recited process (and thus four branches in all), each of which must be performed. Each time it is met, all four of the later-recited actions (copying, transferring, storing, rendering) must occur. Each time it is not met, each of these four actions must be prohibited and incapable of occurring.</p> <p>2. This "if" condition is met if and only if the at least one control allows any portion of the digital file to be copied and also allows that same portion of the file (as opposed to the copy) to be stored on any second device. This "if" condition is based entirely on the at least one control and thus is met, as above, even if other VDE controls prohibit those actions.</p> <p>3. This step must proceed in both "authentication branches" of the process (i.e., regardless of the outcome of the "authentication" step).</p> <p>4. This claim limitation's recitation of "at least one control allows at least a portion of said digital file" is inconsistent with the claim limitation "whether said digital file may be copied ... based on said at least one control."</p>
copying at least a portion of said digital file	<p>1. Copying at least some portion of the digital file (as opposed to a copy thereof), which portion may or may not be (or even include) the portion referred to in the claim limitation "if said at least one control allows at least a portion," by executing VDE control(s) within VDE Secure Processing Environment(s).</p> <p>2. This step must proceed in both "authentication branches" of the process (i.e., regardless of the outcome of the "authentication" step).</p>
transferring at least a portion of said digital file to a second device	<p>1. Transferring to some second device (which may or may not be the "second device" referred to in the claim limitation "if said at least one control allows at least a portion of said digital file to be copied and stored on a second device") at least some portion of the digital file (not a copy thereof), by executing VDE control(s) within VDE Secure Processing Environment(s). The transferred portion may or may not be (or even include) the portion referred to in the claim limitation "if said at least one control allows at least a portion," or the portion referred to the claim limitation "copying at least a portion."</p> <p>2. This step must proceed in both "authentication branches" of the process (i.e., regardless of the outcome of the "authentication" step).</p>
storing said digital file	<p>1. Storing the entire digital file received in the "receiving" step (as opposed to a copy of the file or an incomplete portion of the file).</p>

Claim Phrase	Microsoft's Preliminary Construction
	<p>2. This step must proceed in both "authentication branches" of the process (i.e., regardless of the outcome of the "authentication" step).</p> <p>3. This claim limitation's recitation of "storing said digital file" is inconsistent with the claim limitation "transferring at least a portion of said digital file."</p>
<p>*193:19</p> <p>receiving a digital file at a first device</p>	<p><u>Claim as a Whole:</u> The recited method is performed within a VDE.</p> <p>1. This claim language falls within 35 U.S.C. § 112, ¶ 6. It recites a step or result ("receiving") without reciting an action that achieves that result. The specification does not clearly link any particular action to this recited step. Part of the recited function is performed by Communications Controller 666, I/O Controller 600, SPE 503/SPU 500 (particularly "SPU Encryption/Decryption Engine 522" and NVRAM 534b).</p> <p>2. The recited function requires: obtaining a VDE secure container encapsulating a digital file, authenticating the first device in accordance with VDE controls associated with the secure container, and accepting the secure container.</p>
<p>establishing communication between said first device and a clearinghouse located at a location remote from said first device</p>	<p>1. This claim language falls within 35 U.S.C. § 112, ¶ 6. It recites a step or result ("establishing communication") without reciting an action that achieves that result. The specification does not clearly link any particular action to this recited step. Part of the recited function is performed by the Remote Procedure Call Manager 732 software of Rights Operating System 602 that controls I/O controller 660 and Communications Controller 666.</p> <p>2. The recited function is: creating and using a previously non-existent communications channel which is necessary and sufficient for exchanging information between the first device and a clearinghouse.</p>
<p>using said authorization information to gain access to or make at least one use of said first digital file</p>	<p>1. A user, process or device uses all of said authorization information in connection with executing VDE control(s) within VDE Secure Processing Environment(s) to gain access to or (as opposed to "and") make at least one use of the file received in the "receiving" step. Without using such authorization information, no access to or use of the file is allowed.</p>
<p>including using said key to decrypt at least a portion of said first digital file</p>	<p>1. The "at least one use of said digital file" must encompass decrypting at least a portion of the digital file using the key.</p>
<p>receiving a first control from said clearinghouse at said first device</p>	<p>1. This claim language falls within 35 U.S.C. § 112, ¶ 6. It recites a step or result ("receiving") without reciting an action that achieves that result. The specification does not clearly link any particular action to this recited step. Part of the recited function is performed by Communications Controller 666, I/O Controller 600, SPE 503/SPU 500 (particularly "SPU Encryption/Decryption Engine 522" and NVRAM 534b).</p> <p>2. The recited function requires: obtaining a VDE secure container encapsulating a first control, authenticating the first device in accordance with VDE controls associated with the secure container, and accepting the secure container.</p>
<p>storing said first digital file</p>	<p>1. Storing in a memory of the first device, the entire digital file (as opposed to any incomplete portion thereof) received in the "receiving" step, by</p>

Microsoft's Preliminary Construction	
Claim Phrase	executing VDE control(s) within VDE Secure Processing Environment(s).
in a memory of said first device	
using said first control to determine whether said first digital file may be copied and stored on a second device	1. Determining whether the first control, by itself, allows this particular first device to perform both of the following actions on this particular digital file: (1) copy it and (2) store it (as opposed to a copy of it) on a second device, by executing the first VDE control within VDE Secure Processing Environment(s). To the extent that either the copy or store action is not determined by this step to be permissible, that action is absolutely prohibited and incapable of occurring, and no user, process or device can perform it on this digital file.
if said first control allows at least a portion of said first digital file to be copied and stored on a second device	1. This "if" condition creates two branches for the recited process, each of which must be performed. Each time the "if" condition is met, all four of the later-recited actions (copying, transferring, storing, rendering) must occur. Each time it is not met, each of these four actions must be prohibited and incapable of occurring. 2. This "if" condition is met if and only if the first control allows any portion of the first digital file to be copied and also allows that same portion of the file (as opposed to the copy) to be stored on any second device. This "if" condition is based entirely on the first control and thus is met, as above, even if other VDE controls prohibit those actions. 3. This claim limitation's recitation of "first control allows at least a portion of said first digital file" is inconsistent with the claim limitation "whether said first digital file may be copied ... on a second device."
copying at least a portion of said first digital file	1. Copying at least some portion of the digital file (as opposed to a copy thereof), which portion may or may not be (or even include) the portion referred to in the claim limitation "if said first control allows at least a portion," by executing VDE control(s) within VDE Secure Processing Environment(s).
transferring at least a portion of said first digital file to a second device including a memory and an audio and/or video output	1. Transferring to some second device (which may or may not be the "second device" referred to in the claim limitation "if said first control allows at least a portion of said digital file to be copied and stored on a second device") at least some portion of the digital file (not a copy thereof), by executing VDE control(s) within VDE Secure Processing Environment(s). The transferred portion may or may not be (or even include) the portion referred to in the claim limitation "if said first control allows at least a portion," or the portion referred to the above limitation "copying at least a portion."
storing said first digital file portion	1. Storing the "at least a portion" which was transferred to the second device, of the digital file received in the "receiving" step (as opposed to a copy of the file).
'683:2	Claim as a Whole: The "system" is a VDE.
user controls	1. [This shall be construed as a disputed claim term.]
the first secure container having been received from a	1. The "first secure container" must identify the single apparatus from which it was received, and that apparatus must be different from the first apparatus. Alternatively, if the Court does not construe this claim language as requiring the "first secure container" to identify the single apparatus

Claim Phrase	Microsoft's Preliminary Construction
second apparatus	<p>from which it was received: This claim language has no patentable weight. It recites a step taken in the creation of the recited system, not a structural or functional characteristic of the system. One studying a particular system (as opposed to the process by which it was created) to compare it to the claimed system, could not distinguish a secure container received from another apparatus from, e.g., a secure container created on the first apparatus, and thus could not determine whether this step was satisfied.</p> <p>2. Receiving the secure container includes authenticating the intended recipient in accordance with VDE controls associated with the secure container. The first secure container may be received as bar codes in a fax transmission, or filled ovals on a form delivered through physical mail.</p>
an aspect of access to or use of	<p>1. Any one (as opposed to more than one) aspect of any access to or (as opposed to "and") use by any and all processes, users, and devices.</p>
the first secure container rule having been received from a third apparatus different from said second apparatus	<p>1. The "first secure container rule" must have been received encapsulated within a VDE secure container, and the intended recipient must have been authenticated in accordance with VDE controls associated with the secure container, and the "first secure container rule" must have been accepted by the first apparatus. The "first secure container rule" must identify the single apparatus from which it was received, and that apparatus must be different from the first apparatus.</p> <p>2. Alternatively, if the Court does not construe this claim language as requiring the "first secure container" to identify the single apparatus from which it was received: This claim language has no patentable weight. It recites a step taken in the creation of the recited system, not a structural or functional characteristic of the system. One studying a particular system (as opposed to the process by which it was created) to compare it to the claimed system, could not distinguish a secure container rule received from another apparatus from, e.g., a secure container rule created on the first apparatus, and thus could not determine whether this step was satisfied.</p>
<u>hardware or software used for receiving and opening secure containers</u>	<p>1. This claim language falls within 35 U.S.C. § 112, ¶ 6. It recites an undefined mechanism ("hardware or software") for performing a function (e.g., "opening") without reciting particular structure that performs that function. The specification does not clearly link any particular structure to this recited function. Part of the recited function is performed by Communications Controller 666, I/O Controller 600, SPE 503/SPU 500 (particularly "SPU Encryption/Decryption Engine 522" and NVRAM 534b).</p> <p>2. The recited function requires: the same single logical piece of either hardware or software (as opposed to both) must be capable of both receiving and opening secure containers, this "receiving" including authenticating the intended recipient in accordance with VDE controls associated with the secure container, and this "opening" performed by executing VDE control(s) within VDE Secure Processing Environment(s).</p>
said secure containers each including the capacity to contain a governed item, a secure container rule being associated with each of said secure containers	<p>1. Each secure container which the "hardware or software used for receiving and opening secure containers" is capable of receiving and opening must have the capacity to contain a governed item, and must have associated with it (as opposed to any particular governed item) a secure container rule.</p>

Claim Phrase	Microsoft's Preliminary Construction
protected processing environment at least in part protecting information contained in said protected processing environment from tampering by a user of said first apparatus	<p>1. A single VDE Secure Processing Environment, in addition to and not within the first apparatus, actively preventing (not merely being capable of preventing, and not merely resisting) any "user" of the first apparatus from tampering with any and all information encapsulated by the Secure Processing Environment (as opposed to tampering with the Secure Processing Environment itself). Other components may or may not provide part of this protecting function.</p> <p>2. The protecting function is provided by use of the disclosed "component assembly" (VDE controls), "secure container," "protected processing environment," "object registration," and other mechanisms of the purported "VDE" "invention" for allegedly individually ensuring the "access control" "handoffs" between specific "controls," specific "objects" (and their content at an arbitrary granular level), and specific "users."</p>
hardware or software used for applying said first secure container rule and a second secure container rule in combination to at least in part govern at least one aspect of access to or use of a governed item contained in a secure container	<p>1. This claim language falls within 35 U.S.C. § 112, ¶ 6. It recites an undefined mechanism ("hardware or software") for performing a function ("applying ... in combination") without reciting particular structure that performs that function. The specification does not clearly link any particular structure to this recited function. Part of the recited function is performed by Communications Controller 666, I/O Controller 600, SPE 503/SPU 500 (particularly "SPU Encryption/Decryption Engine 522" and NVRAM 534b).</p> <p>2. The recited function requires: a single logical piece of either hardware or software (as opposed to both) to apply the two separate rules in combination by assembling and executing a single control, and to govern any one or more aspects of any access or use by any process or user or device, of a governed item contained in a secure container (which may or may not be any "secure container" recited earlier). Other components may or may not provide part of the governing function. This "hardware or software" performs its functions by executing VDE control(s) within VDE Secure Processing Environment(s).</p>
hardware or software used for transmission of secure containers to other apparatuses or for the receipt of secure containers from other apparatuses	<p>1. This claim language falls within 35 U.S.C. § 112, ¶ 6. It recites an undefined mechanism ("hardware or software") for performing a function (e.g., "transmission") without reciting particular structure that performs that function. The specification does not clearly link any particular structure to this recited function. Part of the recited function is performed by Communications Controller 666, I/O Controller 600, SPE 503/SPU 500 (particularly "SPU Encryption/Decryption Engine 522" and NVRAM 534b).</p> <p>2. The recited function requires: a single logical piece of either hardware or software (as opposed to both) is capable of both transmission and receipt of secure containers, this receipt including authenticating the intended recipient in accordance with VDE controls associated with the secure container. This "hardware or software" is separate from and in addition to the first apparatus, the recited protected processing environment, and the recited "hardware or software used for receiving and opening secure containers." The transmission and receipt of the secure containers may be via bar codes in a fax transmission, or filled ovals on a form delivered through physical mail. This "hardware or software" performs its functions by executing VDE control(s) within VDE Secure Processing Environment(s).</p>
*721:1	Claim as a Whole: The recited method is performed within a VDE.
digitally signing a first load module with a first digital signature designating the	<p>1. Digitally signing a particular ("first") load module by using a first digital signature as the signature key, which signing indicates to any and all devices in the first device class that the signor authorized this load module for use by that device. No VDE device can perform any execution of any load module without such authorization. The method ensures that the load module cannot execute in a particular device class and ensures that no</p>

Microsoft's Preliminary Construction	
Claim Phrase	
first load module for use by a first device class	device in that device class has the key(s) necessary to verify the digital signature.
digitally signing a second load module with a second digital signature different from the first digital signature, the second digital signature designating the second load module for use by a second device class having at least one of tamper resistance and security level of the first device class	<p>1. Digitally signing a different ("second") load module by using a different ("second") digital signature as the signature key, which signing indicates to any and all devices in the second device class that the signor authorized this load module for use by that device. No VDE device can perform any execution of any load module without such authorization. The method ensures that the load module cannot execute in a particular device class and ensures that no device in that device class has the key(s) necessary to verify the digital signature.</p> <p>2. All devices in the first device class have the same persistent (not just occasional) and identified level of tamper resistance and/or same persistent and identified level of security. All devices in the second device class have the same persistent and identified level of tamper resistance and/or same persistent and identified level of security. The identified level of tamper resistance and/or identified level of security for the first device class, is greater or less than the identified level of tamper resistance and/or identified level of security for the second device class.</p>
distributing the first load module for use by at least one device in the first device class	1. The first load module, digitally signed as indicated above, is transmitted to at least one device in the first device class.
distributing the second load module for use by at least one device in the second device class	1. The second load module, digitally signed as indicated above, is transmitted to at least one device in the second device class.
721:34	Claim as a Whole: The "protected processing environment" is part of and within VDE.
arrangement within the first tamper resistant barrier	1. The arrangement is located and executed wholly within the first tamper resistant barrier.
prevents the first secure execution space from executing the same executable accessed by a second secure execution	1. "A second secure execution space having a second tamper resistant barrier with a second security level different from the first security level"; a second secure execution space (different from the first secure execution space) is part of the protected processing environment, and has a tamper resistant barrier (different from the first tamper resistant barrier) which has a persistent (not just occasional) security level greater or less than the first persistent security level.

Claim Phrase		Microsoft's Preliminary Construction	
space having a second tamper resistant barrier with a second security level different from the first security level	'861:58	2. "The same executable accessed by": the same executable (as opposed to, e.g., two copies of the same executable) is simultaneously accessed by both the first secure execution space and the second secure execution space. 3. "Prevents the first secure execution space from executing": the arrangement prevents the first secure execution space, otherwise capable of executing the executable, from executing any part of the executable (e.g., on behalf of any user, process, or device).	
creating a first secure container		Claim as a Whole: The recited method is performed within a VDE. 1. This preamble language is a claim limitation. 2. Completely forming (as opposed to defining) a secure container within a VDE Secure Processing Environment(s).	
including or addressing . . . organization information . . . desired organization of a content section . . . and metadata information at least in part specifying at least one step required or desired in creation of said first secure container		1. The same single descriptive data structure must either contain within its confines or address both organization information and metadata information. 2. Both the "desired" organization of the content section and also the "desired" step, occur after the descriptive data structure is accessed, not before. 3. The metadata information specifies a procedure, as opposed to a result or a data item.	
at least in part determine specific information required to be included in said first secure container contents		1. The metadata information is used to determine the specific value, not merely the kind, of at least some of the information that must be placed inside the secure container. 2. The use of the metadata information actively requires the secure container creation steps to add this specific information to the first secure container, as opposed to the specific information being within the secure container for some other reason.	
rule designed to control at least one aspect of access to or use of at least a portion of said first secure container contents		1. A rule designed for these particular secure container contents, which is used (by VDE control(s) executing in VDE Secure Processing Environment(s)) to limit access to or use of at least a portion of the contents of the first secure container (by all users, processes, and devices). Without compliance with this rule, no process, user, or device is able to take the controlled aspect of the controlled access or use action.	
'891:1		Claim as a Whole: The recited method is performed within a VDE.	
resource processed in a secure operating		1. This preamble language is a claim limitation. 2. A component part of a first appliance's secure operating environment which is processed within that secure operating environment's special-	

Microsoft's Preliminary Construction	
Claim Phrase	purpose Secure Processing Unit. A Secure Processing Unit is a special-purpose unit isolated from the rest of the world in which a hardware tamper-resistant barrier encapsulates a processor and internal secure memory. The barrier prevents all unauthorized interference, removal, observation, and use of the information and processes within it. The processor cryptographically verifies the integrity of all code loaded from the secure memory prior to execution, executes only the code that the processor has authenticated for its use, and is otherwise secure.
environment at a first appliance	1. This claim language falls within 35 U.S.C. § 112, ¶ 6. It recites a step or result ("securely receiving") without reciting an action that achieves that result. The specification does not clearly link any particular action to this recited step. Part of the recited function is performed by Communications Controller 666, I/O Controller 600, SPE 503/SPU 500 (particularly "SPU Encryption/Decryption Engine 522" and NVRAM 534b).
securely receiving a first entity's control at said first appliance	2. The recited function requires: A first appliance obtaining a VDE secure container encapsulating a control created, selected, or modified by a first entity, as part of a communication encrypted on the communications level, authenticating the first appliance in accordance with VDE controls associated with the secure container, and accepting the secure container.
securely receiving a second entity's control at said first appliance	1. This claim language falls within 35 U.S.C. § 112, ¶ 6. It recites a step or result ("securely receiving") without reciting an action that achieves that result. The specification does not clearly link any particular action to this recited step. Part of the recited function is performed by Communications Controller 666, I/O Controller 600, SPE 503/SPU 500 (particularly "SPU Encryption/Decryption Engine 522" and NVRAM 534b).
securely processing a data item at said first appliance, using at least one resource	2. The recited function requires: A first appliance obtaining a VDE secure container encapsulating a control created, selected, or modified by a second entity, as part of a communication encrypted on the communications level, authenticating the first appliance in accordance with VDE controls associated with the secure container, and accepting the secure container.
securely applying, at said first appliance through use of said at least one resource said first entity's control and said second entity's control to govern use of said data item	1. Performing an operation, inside the special-purpose Secure Processing Unit of the first appliance, on a data item inside the Secure Processing Unit. The operation cannot be observed from outside the SPU and is performed only after the integrity of the program code for performing such operation is cryptographically verified. A Secure Processing Unit is a special-purpose unit isolated from the rest of the world in which a hardware tamper-resistant barrier encapsulates a processor and internal secure memory. The barrier prevents all unauthorized interference, removal, observation, and use of the information and processes within it. The processor cryptographically verifies the integrity of all code loaded from the secure memory prior to execution, executes only the code that the processor has authenticated for its use, and is otherwise secure.
	1. Processing the resource (component part of a first appliance's secure operating environment) within the secure operating environment's special-purpose Secure Processing Unit to execute the first control and second control in combination within the SPU. This execution of these controls governs all use of the data item by all users, processes, and devices. The processing of the resource and execution of the controls cannot be observed from outside the SPU and is performed only after the integrity of the resource and controls is cryptographically verified. A Secure Processing Unit is a special-purpose unit isolated from the rest of the world in which a hardware tamper-resistant barrier encapsulates a processor and internal secure memory. The barrier prevents all unauthorized interference, removal, observation, and use of the information and processes within it. The processor cryptographically verifies the integrity of all code loaded from the secure memory prior to execution, executes only the code that the processor has authenticated for its use, and is otherwise secure.



Microsoft's Preliminary Construction	
Claim Phrase	Claim as a Whole: The "virtual distribution environment" is VDE.
'900:155	Claim as a Whole: The "virtual distribution environment" is VDE.
first host processing environment comprising	1. A host processing environment that encompasses the recited computer hardware (central processing unit, main memory, and mass storage) and certain VDE Protected Processing Environment software loaded in that main memory and executing in that central processing unit, but does not encompass software, such as the recited tamper resistant software, which is stored in mass storage and not executing.
said mass storage storing tamper resistant software	1. The tamper resistant software is physically stored within, as opposed to being merely addressed by, the mass storage.
designed to be loaded into said main memory and executed by said central processing unit	1. The tamper resistant software is capable of being loaded into only said main memory and is capable of being executed only by said central processing unit.
said tamper resistant software comprising: . . . one or more storage locations storing said information	1. The tamper resistant software within said mass storage includes one or more storage locations within it. These storage locations are designated to store, and must store, information derived by the machine check programming, and must not store any other information.
derives information from one or more aspects of said host processing environment,	1. Deriving from the host processing environment hardware one or more values that uniquely and persistently identify the host processing environment and distinguish it from other host processing environments. 2. The "one or more aspects of said host processing environment" are distinguishing components or parts of the host processing environment itself, as opposed to, e.g., data or programs stored within the mass storage or main memory, or processes executing within the host processing environment.
one or more storage locations storing said information	1. One or more logical storage locations within the tamper resistant software storing only information derived by the machine check programming.
information previously stored in said one or more storage locations	1. Any information once stored in said "one or more storage locations storing said information," but not stored therein when the recited comparison occurs.
generates an indication based on the result of said comparison	1. Producing an indication based solely on the result of the "compares" step. There are only two possible indications: the comparison found an exact match, or it did not. The "indication" need not be displayed to a user.
programming which takes one or more actions based	1. Executable programming code that is a part of the tamper resistant software, when executed, and not a part of the host processing environment. Whenever the recited indication is generated, no matter what it indicates, this code (executing on the CPU for which it was designed

Claim Phrase	Microsoft's Preliminary Construction
on the state of said indication	and loaded in the memory for which it was designed) must take an action, or more than one action. The particular action(s) taken must be based solely on the state of that indication.
at least temporarily halting further processing	1. The action(s) taken by this programming must encompass halting or temporarily halting all further processing of the host processing environment and any processes running within it.
'912:8	<u>Claim as a Whole:</u> The recited method is performed within a VDE.
identifying at least one aspect of an execution space required for use and/or execution of the load module	1. Defining fully, without reference to any other information, at least one of the persistent features (aspects) of an execution space that are required for any use, and/or for any execution, of the load module. An execution space without all of those required aspects is incapable of making any such use (e.g., copying, displaying, printing) and/or execution of the load module.
said execution space identifier provides the capability for distinguishing between execution spaces providing a higher level of security and execution spaces providing a lower level of security	1. The execution space identifier, by itself, provides the load module with the capability of determining the persistent level of security of any execution space in which it is loaded, and of distinguishing between any two execution spaces based on their respective, determined persistent (not just occasional) "levels of security." This capability extends to at least two execution spaces providing a higher level of security and at least two execution spaces providing a lower level of security.
checking said record for validity prior to performing said executing step	Before executing any executable programming encompassed within any element which is directly or indirectly identified by any information contained within the first record, evaluating, within a VDE Secure Processing Environment, the values and formats of all data fields within the first record and confirming that they have legitimate values and formats.
'912:35	<u>Claim as a Whole:</u> The recited method is performed within a VDE.
received in a secure container	1. The first processing environment obtained a VDE secure container encapsulating the record inside, and authenticated the intended recipient in accordance with VDE controls associated with the secure container, and accepted the secure container.
said component assembly allowing access to or use of specified information	1. The component assembly identifies specific information over which it (by itself and with no other information), executing in a VDE Secure Processing Environment, allows access or use (as opposed to access "and" use). Unless allowed by the component assembly, no user, process, or device is able to access or use the specified information. The component assembly is associated with and dedicated to this particular specified information.
said first component	1. The first record by itself contains sufficient information to unambiguously identify the assembled component assembly, including all of its

Claim Phrase	Microsoft's Preliminary Construction
assembly specified by said first record	<p>elements.</p> <p>2. This limitation is inconsistent with the recitation "first record containing identification information directly or indirectly identifying one or more elements of first component assembly."</p>

## **EXHIBIT D**

Appended hereto, in accordance with Patent Local Rule 4-2(b), are copies of excerpts of dictionary definitions and other publications.

# **Exhibit D List of Dictionaries**

No.	Dictionary
1	The New IEEE Standard Dictionary of Electrical and Electronic Terms (IEEE 100-1992), 1993, ISBN 1-55937-240-0
2	The Whole Internet: User's Guide and Catalog (O'Reilly & Associates, Inc) ISBN 1-56592-0252
3	Practical Unix Security (O'Reilly & Associates, Inc) ISBN 0-93717-5722
4	Computer Security Basics, Deborah Russell and G.T. Gangemi Sr. (O'Reilly & Associates, 1991) ISBN 0-93717-5714
5	Modern Methods for Computer Security and Privacy, Lance J. Hoffman (Prentice Hall, 1977) ISBN 0-13-595207-7
6	Distributed Systems, Second Edition, Sape Mullender (Addison Wesley, 1993) ISBN 0-20162-4273
7	Formal Models for Computer Security, Carl E Landwehr, ACM Computer Surveys, September 3, 1981 pg 247-275
8	Computer & Communications Security: Strategies for the 1990's, James Arlin Cooper
9	The Computer Security Handbook, Richard Baker (TAB Professional and Reference Books, 1985) ISBN 0-83060-3085
10	Computer Security Handbook 2 <sup>nd</sup> Edition, Hutt, Bosworth, Hoyt (1987) ISBN 002915300X
11	National Information System Security (INFOSEC) Glossary, NSTISSI No. 4009, September 2000
12	Telecommunications: Glossary of Telecommunications Terms by Nation Communications Systems, 1996.
13	Internet Security Glossary, Network Working Group, RFC 2828, May 2000
14	Que's Computer User's Dictionary (1994) ISBN 1-56529-1255
15	The Dictionary of Computing and Digital Media: Terms and Acronyms, Brad Hansen (1999) ISBN 1-887902-38-4
16	Dictionary of Scientific and Technical Terms, 5 <sup>th</sup> ed. (McGraw-Hill, 1994) ISBN 0-07-042333-4
17	The Computer Glossary: The Complete Illustrated Desk Reference, Alan Freedman (Computer Language Co., 1993) ISBN 0-8144-7801-8 (paperback) 0-8144-5104-7 (hardcover)
18	Prentice Hall's Illustrated Dictionary of Computing, 2 <sup>nd</sup> Ed, Jonar C. Nader (Prentice Hall, 1992) ISBN 0-13205-7255
19	Computer Related Risks, Peter G. Neumann (1995) ISBN 0-201-55805-X

20	Dictionary of Computer Science, Engineering and Technology, Phillip A. Laplante (2001) ISBN 0-84932-6915
21	The American Heritage Dictionary of the English Language (1969) Standard Book Reference 0-395-09064-4 or 0-395-09065-2 or 0-395-09066-0
22	Webster's New World Dictionary of Computer Terms (1992) ISBN 0-671-84651-5
23	Webster's College Dictionary of Random House (1991) ISBN 0-679-40110-5 or 0-679-40100-8
24	Dictionary of Computing, Third Edition (Oxford, 1990) ISBN 0-19-853825-1
25	Funk & Wagnalls Standard College Dictionary, 1973
26	Newton's Telecom Dictionary, Harry Newton (1993) ISBN 0-93644-8422; (1996) ISBN 0-93644-8872
27	Tony Gunton, A Dictionary of Information Technology and Computer Science, Second Edition (NCC Blackwell Ltd 1993). ISBN 1-85554-327-3
28	Dictionary of Computer Science, Engineering and Technology, Phillip A. Laplante (2001) ISBN 0-84932-6915
29	Modern Operating Systems, Andrew S. Tanenbaum (Prentice Hall, 1992) ISBN 0-13588-1870
30	Unix System Security, Wood, Kochan (Hayden Books Unix System Library, 1985) ISBN 0-81046-2672
31	Microsoft Computer Dictionary (Microsoft Press, 1994) ISBN 1-55615-597-2
32	Microsoft Computer Dictionary, Third Edition (1997) ISBN 1-57231-446 -X Paperback
33	Security in Computing, Charles P. Pfleeger (Prentice Hall, 1989) 0-13798-9431
34	Information Security: Dictionary of Concepts, Standards and Terms, Dennis Longley, Michael Shain and William Caelli (Stockton Press, 1992) ISBN 1-56159-069-X or 0-333-54698-9
35	The Random House Dictionary of the English Language: College Edition, 1968
36	Dictionary of Object Technology: The Definitive Desk Reference, Donald G Firesmith and Edward M Eykholt (SIGS Book, 1995) ISBN 1-88484-2097
37	Webster's Ninth New Collegiate Dictionary, Merriam-Webster, 1987, ISBN 0-87779-508-8
38	Fundamentals of Database Systems, Ramez Elmasri and Shamkant B. Navathe (Benjamin/Dumplings Publishing Company, 1989) ISBN 0-80530-1453
39	IBM Dictionary of Computing, George

	McDaniel (McGraw Hill, 1994) ISBN 0-07-031488-8 (hardcover) 0-07031-4896 (paperback)
40	Encyclopedia of Computer Science and Engineering, 2 <sup>nd</sup> Edition (Van Nostrand Reinhold Company, 1983) ISBN 0-4423-24496-7

**EXHIBIT E – Production Documents**

IN00004247	IN00029902	IN00075912	IN00075923	IN00075949
IN00075983	IN00075989	IN00076751	IN00076879	IN00076896
IN00076920	IN00078052	IN00171981	IN00172167	IN00173457
IN00173475	IN00173653	IN00173934	IN00174227	IN00174246
IN00174289	IN00174303	IN00174357	IN00174373	IN00174376
IN00174435	IN00174623	IN00174656	IN00174689	IN00174702
IN00174718	IN00174728	IN00174745	IN00174748	IN00174751
IN00174763	IN00174796	IN00174828	IN00174851	IN00174895
IN00174925	IN00174945	IN00174975	IN00175067	IN00175077
IN00175093	IN00175103	IN00175115	IN00175137	IN00175145
IN00175286	IN00175300	IN00175323	IN00175354	IN00175602
IN00175621	IN00175709	IN00175713	IN00175729	IN00175843
IN00176182	IN00176184	IN00176253	IN00176256	IN00176259
IN00176261	IN00176315	IN00176319	IN00176373	IN00176417
IN00176432	IN00176437	IN00176453	IN00176542	IN00176868
IN00176901	IN00177015	IN00177409	IN00177425	IN00177442
IN00177450	IN00177490	IN00177501	IN00177524	IN00177539
IN00177542	IN00178045	IN00178050	IN00178098	IN00178157
IN00178502	IN00178643	IN00178686	IN00179081	IN00179430
IN00179571	IN00179772	IN00182386	IN00182542	IN00182584
IN00182604	IN00182621	IN00182642	IN00182678	IN00182685
IN00182732	IN00182741	IN00182801	IN00182844	IN00182852
IN00182863	IN00182879	IN00182902	IN00183008	IN00183129
IN00183177	IN00183254	IN00183325	IN00183379	IN00183391
IN00183523	IN00183660	IN00183698	IN00183699	IN00183711
IN00183904	IN00183912	IN00183916	IN00183952	IN00183973
IN00183983	IN00184010	IN00184020	IN00184024	IN00184038
IN00184113	IN00184121	IN00184149	IN00184376	IN00184498
IN00184663	IN00184819	IN00184858	IN00184864	IN00185251
IN00185254	IN00185263	IN00185319	IN00185347	IN00185361
IN00186679	IN00186694	IN00186707	IN00186711	IN00186750
IN00186761	IN00186890	IN00187009	IN00187458	IN00189107
IN00189456	IN00189583	IN00189815	IN00189818	IN00189828
IN00510231	IN00515938	IN00520960	IN00521077	IN00521959
IN00525310	IN00529007	IN00532191	IN00532292	IN00790333
IN01104824	IN01105073	IN01274376	IN01275382	IN01275395
IN01275439	IN01275511	IT00000005	IT00000067	IT00000207
IT00000230	IT00000243	IT00000259	IT00000280	IT00000293
IT00000315	IT00000343	IT00000371	IT00000399	IT00000401
IT00000406	IT00000715	IT00000964	IT00001419	IT00001510
IT00001515	IT00001522	IT00001533	IT00001569	IT00001650
IT00001663	IT00001678	IT00001689	IT00001698	IT00001711
IT00001729	IT00001746	IT00001753	IT00001762	IT00001784
IT00001820	IT00001851	IT00001876	IT00001897	IT00001935
IT00001953	IT00001960	IT00001968	IT00001994	IT00002002
IT00002030	IT00002079	IT00002090	IT00002097	IT00002101
IT00002103	IT00002133	IT00002155	IT00002160	IT00002163



# EXHIBIT E - Production Documents

IT00002178	IT00002183	IT00002186	IT00002202	IT00002228
IT00002263	IT00002279	IT00002285	IT00002324	IT00002326
IT00002346	IT00002607	IT00002657	IT00002716	IT00002731
IT00002742	IT00002774	IT00002881	IT00002887	IT00003151
IT00003184	IT00003361	IT00003378	IT00003394	IT00003438
IT00003439	IT00003443	IT00003453	IT00003462	IT00003792
IT00003803	IT00003851	IT00003871	IT00003874	IT00004021
IT00004136	IT00004555	IT00004891	IT00004973	IT00004979
IT00004980	IT00004993	IT00005067	IT00005068	IT00005090
IT00005102	IT00005262	IT00005306	IT00005314	IT00005401
IT00005416	IT00005450	IT00005463	IT00005749	IT00006228
	IT00006425	IT00006666	IT00006977	IT00007422
IT00007789	IT00007992	IT00008109	IT00008235	IT00008285
IT00008360	IT00008467	IT00008479	IT00008555	IT00009310
IT00009829	IT00009847	IT00009922	IT00010328	IT00010428
IT00010486	IT00010632	IT00010655	IT00010875	IT00011180
IT00012629	IT00012853	IT00012969	IT00013156	IT00013520
IT00013557	IT00013564	IT00013569	IT00013604	IT00013624
IT00013657	IT00013666	IT00013667	IT00013715	IT00013750
IT00013765	IT00014049	IT00014707	IT00014488	IT00014514
IT00014521	IT00014525	IT00014533	IT00014590	IT00014690
IT00014707	IT00014785	IT00014850	IT00014871	IT00014879
IT00014940	IT00015007	IT00015191	IT00015210	IT00015230
IT00015234	IT00015237	IT00015260	IT00015273	IT00015284
IT00015288	IT00015292	IT00015667	IT00015891	IT00016296
IT00016479	IT00016854	IT00018144	IT00018217	IT00018281
IT00018305	IT00018770	IT00018841	IT00018879	IT00021839
IT00025971	IT00026603	IT00026662	IT00026722	IT00026782
IT00026903	IT00026970	IT00027106	IT00027113	IT00027255
IT00027264	IT00027271	IT00027531	IT00027539	IT00027879
IT00027898	IT00027900	IT00027927	IT00027943	IT00027960
IT00027974	IT00027989	IT00028003	IT00028116	IT00028128
IT00028227	IT00028234	IT00028249	IT00028254	IT00028290
IT00028292	IT00028304	IT00028336	IT00028371	IT00028528
IT00028627	IT00028641	IT00028660	IT00030738	IT00031303
IT00031329	IT00031344	IT00031364	IT00031375	IT00031385
IT00031395	IT00031410	IT00031438	IT00031446	IT00031490
IT00031513	IT00031532	IT00031560	IT00031572	IT00031586
IT00031604	IT00031624	IT00031643	IT00031930	IT00031938
IT00031982	IT00032016	IT00032268	IT00032370	IT00032436
IT00036848	IT00036849	IT00036850	IT00036851	IT00036852
IT00036853	IT00036854	IT00036855	IT00036856	IT00036857
IT00036858	IT00036859	IT00036860	IT00036861	IT00036862
IT00036863	IT00036864	IT00036865	IT00036866	IT00036867
IT00036868	IT00036869	IT00036870	IT00036871	IT00036872
IT00036873	IT00036874	IT00036875	IT00036876	IT00036877
IT00036878	IT00037270	IT00037296	IT00037303	IT00037307

# EXHIBIT E – Production Documents

IT00037372	IT00037390	IT00037427	IT00037444	IT00037468
IT00037478	IT00037479	IT00037527	IT00037562	IT00037577
IT00038182	IT00038306	IT00038327	IT00038347	IT00038363
IT00038372	IT00038422	IT00038431	IT00038997	IT00039250
IT00039866	IT00040223	IT00040233	IT00040347	IT00040361
IT00040363	IT00041512	IT00041530	IT00042789	IT00045453
IT00045456	IT00045457	IT00045458	IT00046871	IT00049240
IT00050938	IT00050949	IT00050961	IT00051019	IT00051099
IT00051136	IT00051147	IT00051179	IT00051227	IT00051720
IT00051856	IT00051867	IT00051878	IT00051894	IT00051901
IT00051938	IT00051952	IT00052017	IT00052139	IT00052144
IT00052146	IT00052167	IT00052168	IT00054954	IT00055484
IT00069793	IT00095639	IT00095745	IT00095774	IT00095776
IT00095789	IT00095843	IT00095849	IT00095916	IT00095949
IT00096026	IT00096036	IT00096041	IT00096061	IT00096470
IT00096679	IT00096944	IT00097379	IT00097717	IT00113942
IT00114233	IT00114388	IT00114577	IT00114757	IT00117517
IT00117579	IT00117756	IT00117996	IT00118184	IT00118709
IT00118866	IT00119088	IT00119148	IT00119686	IT00119698
IT00119815	IT00119851	IT00119907	IT00119928	IT00120095
IT00120163	IT00120964	IT00121368	IT00121370	IT00121503
IT00122592	IT00124816	IT00124818	IT00124820	IT00124822
IT00124823	IT00124836	IT00124910	IT00124911	IT00124932
IT00124944	IT00125101	IT00125143	IT00125151	IT00125238
IT00125253	IT00125287	IT00132194	IT00132319	IT00132467
IT00132502	IT00132505	IT00132554	IT00132864	IT00133375
IT00133709	IT00134029	IT00134508	IT00135017	IT00135382
IT00136266	IT00136488	IT00136548	IT00137267	IT00138348
IT00138641	IT00139967	IT00140269	IT00140401	IT00141322
IT00142337	IT00143975	IT00149724	IT00150856	IT00167103
IT00169208	IT00177126	IT00188324	IT00191480	IT00192334
IT00197477	IT00197482	IT00197491	IT00210571	IT00214347
IT00247624	IT00340503	IT00383482	IT00399871	IT00399877
IT00421590	IT00516589	IT00523579	IT00523595	IT00523612
IT00523646	IT00523662	IT00523677	IT00523696	IT00523701
IT00543741	IT00550662	IT00559320	IT00560258	IT00565857
IT00566022	IT00698363	IT00698378	IT00698393	IT00698409
IT00702804	IT00702823	IT00702855	IT00702862	IT00702864
IT00702869	IT00702891	IT00702908	IT00702922	IT00702937
IT00702969	IT00702987	IT00703050	IT00703055	IT00703080
IT00703081	IT00703083	IT00703090	IT00703100	IT00703152
IT00703217	IT00703258	IT00703287	IT00703326	IT00703390
IT00703400	IT00703419	IT00703435	IT00703477	460MIC00007
460MIC00017	GNT00000001	GNT00004298	GNT00004304	GNT00004444
GNT00004851	GNT00004927	GNT00004958	LINN00001-709	NIST00001-2226
NSA 00275-3033	NV00000037	WW00143		

## EXHIBIT F - Publications

MSI0156840-45	MSI080441-445	MSI085704 et seq.
MSI017361-62	MSI080456-478	MSI085756
MSI017548-556	MSI080562-574	MSI085831-33
MSI017864-70	MSI080575-696	MSI085834-36
MSI017899-911	MSI080697-712	MSI085837-39
MSI018529-74	MSI080779-784	MSI085840-42
MSI018811-19	MSI080875-909	MSI085843-44
MSI019082-99	MSI080910-26	MSI086146-55
MSI020348-370	MSI080927-973	MSI086641-52
MSI020373-384	MSI080974-81007	MSI086653-62
MSI020389-396	MSI081052-66	MSI086675-86
MSI021744	MSI081140 et seq.	MSI086687-703
MSI022371-380	MSI081240 et seq.	MSI086704-727
MSI022440-455	MSI081464 et seq.	MSI086845-863
MSI022766-23028	MSI081464-717	MSI086864-67
MSI027045-068	MSI082792-826	MSI086893-904
MSI036052-92	MSI082958-3002	MSI086905-919
MSI036113-28	MSI083003-13	MSI086923-25
MSI067984-8007	MSI083105-107	MSI086926-32
MSI068022 et seq.	MSI083108-179	MSI086946-950
MSI079611-656	MSI083356 et seq.	MSI086951-73
MSI079796-806	MSI083356-99	MSI086985-87006
MSI079844-49	MSI083400	MSI087007-36
MSI079850-56	MSI083410	MSI087007-36
MSI079850-56	MSI083423	MSI087037-43
MSI080030-40	MSI083423-443	MSI087044-46
MSI080041-42	MSI083444 et seq.	MSI087047-60
MSI080043-97	MSI085035-6	MSI087061-80
MSI080098-102	MSI085043-48	MSI087081-88
MSI080103-116	MSI085049-58	MSI087089-106
MSI080117-119	MSI085078-114	MSI087107-14
MSI080120-31	MSI085115-35	MSI087153-54
MSI080160-164	MSI085136-149	MSI087160-62
MSI080173-188	MSI085189-200	MSI087341-51
MSI080194-204	MSI085211	MSI087352-364
MSI080205-222	MSI085217-29	MSI087365-86
MSI080254-260	MSI085230-44	MSI087392-407
MSI080261-276	MSI085245-350	MSI087408-421
MSI080290-302	MSI085479-521	MSI087422-443
MSI080337-348	MSI085551-68	MSI087444-447
MSI080349-55	MSI085569	MSI087448-453
MSI080356-397	MSI085569-92	MSI087454-465
MSI080410-419	MSI085593-653	MSI087519-31
MSI080420-422	MSI085654	MSI087532-45

## EXHIBIT F - Publications

MSI087558-75	MSI089068-165	MSI163358-59
MSI087576-85	MSI089191-200	MSI163519-23
MSI087586-592	MSI089974-90004	MSI163935-4204
MSI087598-623	MSI090025-45	MSI164205-4281
MSI087681-693	MSI090055-66	MSI164771-800
MSI087694-707	MSI090091-114	MSI164842-46
MSI087717-24	MSI090181-244	MSI168115-131
MSI087725-36	MSI093870-94277	MSI168132-56
MSI087737-47	MSI094278	MSI168350-385
MSI087748-64	MSI094738 et seq.	MSI173839-868
MSI087765-75	MSI095044 et seq.	MSI173884-886
MSI087776-793	MSI095787 et seq.	MSI173887-892
MSI087811-820	MSI096004 et seq.	MSI173893-904
MSI087821-838	MSI120670-720	MSI173905-906
MSI087839-51	MSI132777-87	MSI175647-669
MSI087852-65	MSI156788-93	MSI175666-704
MSI088177-79	MSI156834-39	MSI175722-730
MSI088186-203	MSI161724-31	MSI17573-739
MSI088297	MSI161742-52	MSI175738-763
MSI088297-313	MSI161753-60	MSI175740-748
MSI088314	MSI161761-96	MSI175764-787
MSI088342	MSI161797-800	MSI175788-795
MSI088363	MSI161856-65	MSI175818-839
MSI088368	MSI161886-94	MSI175840-903
MSI088508512	MSI161895-901	MSI175869-934
MSI088562-759	MSI161921-42	MSI175904-911
MSI088773-80	MSI161943-68	MSI175912-944
MSI088781-95	MSI161969-85	MSI175935-943
MSI088820-73	MSI162040-60	MSI175944-978
MSI088876-78	MSI162061-75	MSI176004-070
MSI088876-78	MSI162132 et seq.	MSI176033-073
MSI088879-80	MSI162160-355	MSI176183-204
MSI088881-83	MSI162646	MSI192494-509
MSI088884-85	MSI162654-69	MSI192652-60
MSI088886-87	MSI162698-710	MSI192773-87
MSI088888-89	MSI162729-45	MSI197506-8536
MSI088890-91	MSI162756-76	MSI198537-8578
MSI088892-94	MSI162788-800	MSI198579-8690
MSI088896-902	MSI162820-23	MSI198691-8846
MSI088903-13	MSI162830-37	MSI199341
MSI088914-18	MSI162841-45	MSI199404
MSI088919-33	MSI163014-79	MSI199417
MSI088938-9026	MSI163338-39	MSI199425
MSI088953	MSI163355-57	MSI199480

# **EXHIBIT F - Publications**

MSI199485  
MSI199525  
MSI199536  
MSI199550  
MSI199576  
MSI199605  
MSI199612  
MSI199618  
MSI199633  
MSI199645  
MSI199681  
MSI199700  
MSI199736  
MSI199738  
MSI199743  
MSI199755  
MSI204966  
MSI204983  
MSI205081  
MSI205118  
MSI205137  
MSI205190  
MSI205529  
MSI205548  
MSI205621  
MSI205633  
MSI205648  
MSI205650  
MSI205659  
MSI205660  
MSI205749  
MSI205967  
MSI205981  
MSI206028  
MSI206144  
MSI206178  
MSI206672  
MSI206764-76  
MSI206777  
MSI206951  
MSI206952  
MSI206982  
MSI207089  
MSI207745-80

MSI207781-819  
MSI207820-46  
MSI207847-72  
MSI207873-901  
MSI207998-8022  
MSI208023-45  
MSI208222-79  
MSI208280-320  
MSI208321-63  
MSI208364-98  
MSI208434-64  
MSI208465-501  
MSI208843-67  
MSI209487-95  
MSI209496-524  
MSI209525-46  
MSI209547-58  
MSI209692-712  
MSI209713-26  
MSI209854-68  
MSI209981-90  
MSI210379-402  
MSI210403-20  
MSI210421-27  
MSI210447  
MSI210496-516  
MSI210517-21  
MSI210522-30  
MSI210838-55  
MSI210856-899  
MSI210900-40  
MSI210941-83  
MSI210984-90  
MSI211023-24  
MSI211026-27  
MSI211071-132  
MSI211133-79  
MSI211180-324  
MSI211325-465  
MSI211504-5  
MSI211515-17  
MSI211582-610  
MSI213017-25  
MSI213026-41

MSI213042-65  
MSI213076-87  
MSI213088-96  
MSI213206-10  
MSI213211-13  
MSI213214-20

(see also cited production documents such as LINN, NIST)

### Exhibit F Publications

<u>Bates Number</u>	<u>Author and Title</u>
MSI0156840	Willett, S., "Metered PCs: Is Your System Watching You?, Wave Systems Beta Tests New Technology," May 2, 1994.
MSI017361	Cox, B., "Superdistribution," January 1996.
MSI017548	Hauser, Ralf, C., "Does Licensing Require New Access Control Techniques?," August 12, 1993.
MSI017864	Purdy, G.B., et al., "A Software Protection Scheme," April 1982.
MSI017899	Sibert, O., et al., "The DigiBox: A Self-Protecting Container for Information Commerce," July 1995.
MSI018529	Lampson, B., et al. "Authentication in Distributed Systems in Theory and Practice," November 4, 1992.
MSI018811	Newman, B.C., "Proxy-Based Authorization and Accounting for Distributed Systems," 1993.
MSI019082	CUPID, "Protocols and Services (Version 1): An Architectural Overview," November 1997.
MSI020348	Herzberg, A., et al., "Public Protection of Software," November 1987.
MSI020373	Hot Java: "The Security Story," 1996
MSI020389	JavaSoft, "Frequently Asked Questions-Applet Security," June 7, 1996.
MSI021744	Arneke, D., "AT&T Encryption System Protects Information Services" News Release, January 9, 1995.
MSI022371	Low, S.H., et al., "Anonymous Credit Cards," November 1994.
MSI022440	Kristol, D.M., et al., "Anonymous Internet Mercantile Protocol," March 17, 1994.
MSI022766	The First USENIX Workshop on Electronic Commerce Proceedings, July 1995.
MSI027045	Denning, Dorothy E., et al., "Data Security," September 1979.
MSI036052	Wobber, E., et al. "Authenticating in the Taos Operating System," Digital Systems Research Center," December 10, 1993.
MSI036113	Olson, M., et al., "Concurrent Access Licensing," 1988.

### Exhibit F Publications

MSI067984	Kahn, D., "The Codebreakers: The Story of Secret Writing," December 1996.
MSI068022	Cohen, F.B., "Protection and Security on the Information Superhighway," 1995.
MSI079611	Brockschmidt, Kraig, "Inside OLE 2," 1994.
MSI079796	Ioannidis, J., et al., "The Architecture and Implementation of Network-Layer Security Under Unix," October 1993.
MSI079844	Berners-Lee, T.J., et al., "Networked Information Services: The World-Wide Web," 1992.
MSI079850	Rivest, R.L., et al., "A Method for Obtaining Digital Signatures and Public-Key Cryptosystems," 1978.
MSI079850	Rivest, R.L., et al., "A Method for Obtaining Digital Signatures and Public-Key Cryptosystems," 1978.
MSI080030	Ferraiolo, D., et al., "Role-Based Access Control," 1992.
MSI080041	NIST, "Role Based Access Control," 1992.
MSI080043	U.S. Department of Commerce (NIST), "Security Requirements for Cryptographic Modules," undated.
MSI080098	Kreutzer, A.N., "An On-Line System for Controlling and Monitoring Software Usage in a Microcomputer Laboratory," August 1988.
MSI080103	Millen, J.K., et al., "Security for Object-Oriented Database Systems," May 1992.
MSI080117	Kim, L., et al., "Novell Cuisine," 1991.
MSI080120	Koenig, A., "Automatic Software Distribution," June 1984.
MSI080160	Leiss, E., "On Authorization Systems with Grantor-Controlled Propagation on Privileges," 1983.
MSI080173	Strack, Hermann, "Extended Access Control in UNIX System V-ACLs and Context," August 1990.
MSI080194	Polk, T.W., "Approximating Clark-Wilson "Access Triples" with Basic UNIX Controls," October 1993.
MSI080205	Kamens, J.I., "Retrofitting Network Security to Third-Party Applications-The SecureBase Experience," October 1993.

### Exhibit F Publications

<b>MSI080254</b>	<b>Gamble, Todd, "Implementing Execution Controls in Unix," 1993.</b>
<b>MSI080261</b>	<b>Epstein, J., "A Trusted X Window System Server for Trusted Mach," August 30, 1990.</b>
<b>MSI080290</b>	<b>Kelter, U., "Discretionary Access Controls in a High-Performance Object Management System," 1991.</b>
<b>MSI080337</b>	<b>Downs, D.D., et al., "Issues in Discretionary Access Control," April 1985.</b>
<b>MSI080349</b>	<b>Solomon, Daniel, J., "Processing Multilevel Secure Objects," April 1981.</b>
<b>MSI080356</b>	<b>Kim, Won, et al., "Object-Oriented Concepts, Databases, and Applications," 1989.</b>
<b>MSI080410</b>	<b>Maude, T., et al., "Hardware Protection Against Software Piracy," September 1984.</b>
<b>MSI080420</b>	<b>Lipson, S., "Little Black Box 'Blocks' Illicit Software Copying," September 14, 1986.</b>
<b>MSI080441</b>	<b>Sandhu, Ravi, S., et al., "Implementation Considerations for the Typed Access Matrix Model in a Distributed Environment," October 1992.</b>
<b>MSI080456</b>	<b>Rescorla, E., et al., "The Secure HyperText Transfer Protocol," June 1994.</b>
<b>MSI080562</b>	<b>Keefe, T.F., et al., "Prototyping the SODA Security Model," 1990.</b>
<b>MSI080575</b>	<b>National Security Agency, "A Guide to Understanding Security Modeling in Trusted Systems," October 1992.</b>
<b>MSI080697</b>	<b>Sandhu, R.S., "The Typed Access Matrix Model," May 1992.</b>
<b>MSI080779</b>	<b>Lunt, Teresa, "Multilevel Security for Object-Oriented Database Systems," 1990.</b>
<b>MSI080875</b>	<b>Tygar, J.D., et al., "Strongbox: A System for Self-Securing Programs," 1991.</b>
<b>MSI080910</b>	<b>Yee, B., et al., "Secure Coprocessors in Electronic Commerce Applications," July 1995.</b>
<b>MSI080927</b>	<b>Franklin, M., et al., "An Overview of Secure Distribution Computing," March 24, 1992.</b>
<b>MSI080974</b>	<b>Anderson, R., "Why Cryptosystems Fail," November 1993.</b>
<b>MSI081052</b>	<b>Bishop, M., "Anatomy of a Proactive Password Changer," 1992.</b>



### Exhibit F Publications

<b>MSI081140</b>	Time-Life Books, "Understanding Computers: Computer Security," 1986.
<b>MSI081240</b>	Wood, P.H., et al., "UNIX System Security," 1985.
<b>MSI081464</b>	Custer, Helen, "Inside Windows NT," 1993.
<b>MSI081464</b>	Custer, Helen, "Inside Windows NT," 1993.
<b>MSI082792</b>	Symantec Corporation, "THINK Pascal: The Fastest Way to Finished Software," 1990.
<b>MSI082958</b>	Olivier, M.S., et al., "A Taxonomy for Secure Object-Oriented Databases," 1994.
<b>MSI083003</b>	McCollum, C.J., et al., "Beyond the Pale of MAC and DAC-Defining New Forms of Access Control," 1990.
<b>MSI083105</b>	"Mach Books," viewed on February 6, 2002 at < <a href="http://www2.cs.cmu.edu/afs/cs/project/mach/public/www/doc/books.html">http://www2.cs.cmu.edu/afs/cs/project/mach/public/www/doc/books.html</a> >
<b>MSI083108</b>	Department of Defense, "Trusted Computer System Evaluation Criteria," December 1985.
<b>MSI083356</b>	LaLonde Wilf, R., et al., "Inside Smalltalk," Volume 1, 1990.
<b>MSI083356</b>	LaLonde Wilf, R., et al., "Inside Smalltalk," Volume 1, 1990.
<b>MSI083400</b>	Muftic, Sead, "Security Mechanisms for Computer Networks," 1989.
<b>MSI083410</b>	Konheim, Alan, G., et al., "Cryptography: A Primer," 1981.
<b>MSI083423</b>	Davies, D.W., et al., "Security for Computer Networks," 1984.
<b>MSI083423</b>	Davies, D.W., et al., "Security for Computer Networks," 1984.
<b>MSI083444</b>	Castano, S., et al., "Database Security," 1995.
<b>MSI085035</b>	OOPSLA 1993: Addendum to the Proceedings, "Security for Object-Oriented Systems," September 26-October 1, 1993.
<b>MSI085043</b>	Thuraisingham, B., et al., "Parallel Processing and Trusted Database Management Systems," 1993.
<b>MSI085049</b>	Secure Computing, "Constructing a High Assurance Mail Guard," 1994.
<b>MSI085078</b>	Sandhu, R.S., et al., "Data and Database Security and Controls," 1993.

### Exhibit F Publications

MSI085115	Thomas, R.K., et al., "Implementing the Message Filter Object-Oriented Security Model without Trusted Subjects," August 1992.
MSI085136	Sandhu, R., et al., "A Secure Kernelized Architecture for Multilevel Object-Oriented Databases," June 1991.
MSI085189	Sibert, O., et al., "The Intel 80x86 Processor Architecture: Pitfalls for Secure Systems," May 1995.
MSI085211	Ware, W., Chairman RAND Corporation "Panel: The InterTrust Commerce Architecture," 1997.
<b>MSI085217</b>	<b>Fine, T., et al, "Assuring Distributed Trusted Mach," 1993.</b>
MSI085230	Minear, S.E., "Providing Policy Control Over Object Operations in a Mach Based System," April 28, 1995.
<b>MSI085245</b>	<b>Harris, J., et al., "Bento Specification," July 15, 1993.</b>
MSI085479	Young, W.D., "Verifiable Computer Security and Hardware: Issues," September 1991.
MSI085551	Denning, A., "OLE Controls Inside Out," 1995.
<b>MSI085569</b>	<b>Denning, D., "Cryptography and Data Security," 1982.</b>
<b>MSI085569</b>	<b>Denning, D., "Cryptography and Data Security," 1982.</b>
<b>MSI085593</b>	<b>Schneier, Bruce, "Applied Cryptography: Protocols, Algorithms, and Source Code in C," 1994.</b>
<b>MSI085654</b>	<b>Garfinkel, Simson, et al., "Practical UNIX Security," 1991.</b>
<b>MSI085704</b>	<b>Dougherty, D., et al., "The Mosaic Handbook for the X Window System," 1994.</b>
<b>MSI085756</b>	<b>Curry, D.A., "UNIX System Security: A Guide for Users and System Administrators," 1992.</b>
MSI085831	International Infrastructure Standards Panel, "IISP Need #31-Containers or Secure Packaging," September 18, 1995.
MSI085834	International Infrastructure Standards Panel, "IISP Need #32-Authentication of Content," September 18, 1995.
MSI085837	International Infrastructure Standards Panel, "IISP Need #33-Control Enforcement," September 18, 1995.

### Exhibit F Publications

MSI085840	International Infrastructure Standards Panel, "IISP Need #34-Billing and Payment," September 18, 1995
MSI085843	International Infrastructure Standards Panel, "IISP Need #35-Reporting," September 18, 1995.
MSI086146	Kaplan, M., "IBM Cryptolopes, Super Distribution and Digital Rights Management," December 30, 1996.
MSI086641	Sebes, E.J., et al., "The Triad System: The Design of a Distributed, Real-Time, Trusted System," January 22, 1998.
MSI086653	Sebes, E.J., et al., "The Architecture of Triad: A Distributed, Real-Time, Trusted System," (undated).
MSI086675	Sebes, E.J., "Overview of the Architecture of Distributed Trusted Mach," undated.
MSI086687	Vickers Benz, T.C., et al., "Identification of Subjects and Objects in a Trusted Extensible Client Server Architecture," undated.
MSI086704	Borenstein, N., "MIME Extensions for Mail-Enabled Applications: Application/Safe-Tel and Multipart/Enabled-Mail," November 1993.
MSI086845	Bellare, M., "iKP-A Family of Secure Electronic Payment Protocols," April 16, 1995.
MSI086864	Harn, Lein, et al., "A Software Authentication System for the Prevention of Computer Viruses," 1992.
MSI086893	Deutsch, P., "GZIP File Format Specification Version 4.3," May 1996.
MSI086905	Gong, Li, "A Secure Identity-Based Capability System," January 1989.
MSI086923	Merkle, R.C., "Secure Communications Over Insecure Channels," April 1978.
MSI086926	Denning, D.E., "Secure Personal Computing in an Insecure Network," August 1979.
MSI086946	Medvinsky, G., et al., "NetCash: A Design for Practical Electronic Currency on the Internet," 1993.
MSI086951	Franz, M., "Technological Steps Toward a Software Component Industry," undated.
MSI086985	Kent, S., et al., "Privacy Enhancement for Internet Electronic Mail: Part II--Certificate-Based Key Management," August 1989.

### Exhibit F Publications

MSI087007	Linn, J., "Privacy Enhancement for Internet Electronic Mail: Part I-- Message Encipherment and Authentication Procedures," August 1989.
MSI087007	Linn, J., "Privacy Enhancement for Internet Electronic Mail: Part I-- Message Encipherment and Authentication Procedures," August 1989.
MSI087037	Chaum, D., "Achieving Electronic Privacy," August 1992.
MSI087044	Microsoft Press, OLE 2 Programmer's Reference; Volume 1, "Working with Windows Objects," 1994.
MSI087047	Brockschmidt, K., "A Primer on Designing Custom Controls," March/April 1992.
MSI087061	Klemond, P., "Taking the Bull by the Horns: Investigating Object Linking and Embedding, Part I," March/April 1992.
MSI087081	Klemond, P., "Investigating Object Linking and Embedding, Part II: Adding Server Support," May/June 1992.
MSI087089	DiLascia, Paul, "OLE Made Almost Easy: Creating Containers and Servers Using MFC 2.5," April 1994.
MSI087107	Coad, Peter, "Object-Oriented Patterns," September 1992.
MSI087153	Zelnick, Nate, "Keeping Business Safe on the Internet," April 25, 1995.
MSI087160	Lucent Technologies, "AT&T Encryption System Protects Information Services," January 9, 1995.
MSI087341	Birrell, Andrew, D., et al., "A Global Authentication Service Without Global Trust," April 1986.
MSI087352	Gasser, M., et al., "The Digital Distributed System Security Architecture," 1989.
MSI087365	Abadi, M., et al., "Authentication and Delegation with Smart-Cards," 1990.
MSI087392	Zelevnick, M.P., "Security Design in Distributed Computing Applications," December 1993.
MSI087408	Moffett, Jonathan, D., et al., "An Introduction to Security Distributed Systems," August 1993.
MSI087422	Netscape, "SSL 2.0 Protocol Specification," February 9, 1995.

### Exhibit F Publications

MSI087444	Davis, D., et al., "Network Security via Private-Key Certificates," October 1990.
MSI087448	Gruber, R., et al., "Disconnected Operation in the Thor Object-Oriented Database System," December 1994.
MSI087454	Ting, T.C., et al., "Requirements, Capabilities and Functionalities of User Role Based Security for an Object-Oriented Design Model," 1992.
MSI087519	Gifford, David, K., "Cryptographic Sealing for Information Secrecy and Authentication," 1982.
MSI087532	Boly, J.P., et al., "The ESPRIT Project CAFÉ: High Security Digital Payment Systems," 1994.
MSI087558	Kluepfel, H.M., "Securing a Global Village and its Resources: Baseline Security for Interconnected Signaling System #7 Telecommunications Networks," 1993.
MSI087576	Uhler, Stephen A., "PhoneStation, Moving the Telephone onto the Virtual Desktop," January 1993.
MSI087586	Brown, Patrick W., "Digital Signatures: Can They Be Accepted as Legal Signatures in EDI?," November 1993.
MSI087598	Popek, Gerald, J., et al., "Encryption and Secure Computer Networks," December 1979.
MSI087681	Picciotto, J., et al., "Extended Labeling Policies for Enhanced Application Support," 1994.
MSI087694	Born, E, et al., "Discretionary Access Control by Means of Usage Conditions," 1994.
MSI087717	Russell, S., "Paradigms for Verification of Authorization at Source of Electronic Documents in an Integrated Environment," 1993.
MSI087725	Olivier, M.S., et al., "Building a Secure Database Using Self-Protecting Objects," 1992.
MSI087737	Press, J., "Secure Transfer of Identity and Privilege Attributes in an Open Systems Environment," 1991.
MSI087748	Fugini, M.G., et al., "Authorization and Access Control in the Office-Net System," 1989.
MSI087765	Hardjono, Thomas, "Record Encryption in Distributed Databases," January 1990.

### Exhibit F Publications

MSI087776	Calas, C., "Distributed File System Over a Multilevel Secure Architecture Problems and Solutions," 1994.
MSI087811	Russell, S., "Planning for the EDI of Tomorrow Using Electronic Document Authorization," 1993.
MSI087821	Lin, P., "The Encapsulated Security Services Interface (ESSI)," 1993.
MSI087839	Fugini, M., et al., "Security Management in Office Information Systems," 1984.
MSI087852	Montini, G, et al., "Access Control Models and Office Structures," 1984.
MSI088177	Multics, Home; viewed on November 12, 2001 at < <a href="http://www.multicians.org">http://www.multicians.org</a> >.
MSI088186	Corbato, F.J., et al., "Introduction and Overview of the Multics System," 1992.
MSI088297	Moffett, J., et al., "Specifying Discretionary Access Control Policy for Distributed Systems," September 18, 1990.
MSI088297	Moffett, J., et al., "Specifying Discretionary Access Control Policy for Distributed Systems," September 18, 1990.
MSI088314	Moffett, J.D., "Specification of Management Policies and Discretionary Access Control," June 28, 1994.
MSI088342	Moffett, J.D., "Specification of Management Policies and Discretionary Access Control," 1994.
MSI088363	Moffett, J.D., et al., "Policy Hierarchies for Distributed Systems Management," December 1993.
MSI088368	Moffett, J.D., et al., "The Representation of Policies as System Objects," November 1991.
MSI088508	Lampson, B.W., "A Note on the Confinement Problem," 1973.
MSI088562	Olivier, M.S., "Secure Object-Oriented Databases," December 1991.
MSI088773	Thuraisingham, M.B., "Mandatory Security in Object-Oriented Database Systems," October 1989.
MSI088781	Chaum, D., "Security Without Identification: Transaction Systems to Make Big Brother Obsolete," October 1985.
MSI088820	Lampson, B., "Computer Security," 1991.

### Exhibit F Publications

MSI088876	Walker, S., "Notes from RSA Data Security Conference," January 18, 1994.
MSI088876	Walker, S., "Notes from RSA Data Security Conference," January 18, 1994.
MSI088879	RSA Security; News; < <a href="http://rsasecurity.com/news/pr/9401.html">http://rsasecurity.com/news/pr/9401.html</a> >, dated January 12, 1994.
MSI088881	RSA Security; News; "iPower's Data Security Approach," < <a href="http://rsasecurity.com/news/pr/940112-10.html">http://rsasecurity.com/news/pr/940112-10.html</a> >, dated January 12, 1994.
MSI088884	RSA Security; News; "General Magic Picks RSA," < <a href="http://rsasecurity.com/news/pr/940112-3.html">http://rsasecurity.com/news/pr/940112-3.html</a> >, dated January 12, 1994.
MSI088886	RSA Security; News; "Enterprise Solutions Announces RSA Mail," < <a href="http://rsasecurity.com/news/pr/940112-2.html">http://rsasecurity.com/news/pr/940112-2.html</a> >, dated January 12, 1994.
MSI088888	RSA Security; News; "Hewlett-Packard Chooses RSA," < <a href="http://rsasecurity.com/news/pr/940112-5.html">http://rsasecurity.com/news/pr/940112-5.html</a> >, dated January 12, 1994.
MSI088890	RSA Security; News; "Hilgraeve Ships Secure Version of HyperACCESS/5," < <a href="http://rsasecurity.com/news/pr/940112-8.html">http://rsasecurity.com/news/pr/940112-8.html</a> >, dated January 12, 1994.
MSI088892	RSA Security; News; "RSA Enters Wireless Arena," < <a href="http://rsasecurity.com/news/pr/940112-6.html">http://rsasecurity.com/news/pr/940112-6.html</a> >, dated January 12, 1994.
MSI088896	Williams, S., "An MSJ Interview with Microsoft's Chief Architect of OLE, Tony Williams," October 1993.
MSI088903	Brockschmidt, K., "OLE 2.0 Part II: Implementing a Simple Windows Object Using Either C or C++," October 1993.
MSI088914	Brockschmidt, K., "Introducing OLE 2.0, Part 1: Windows Objects and the Component Object Model," August 1993.
MSI088919	Brockschmidt, K., "Implementing OLE 2.0, Part III: Uniform Data Transfer with Data Objects," December 1993.
MSI088938	Townsend, J.E., "NIST on Internet Security," March 22, 1994.
MSI088953	Curry, David A., "Improving the Security of Your Unix System," April 1990.
MSI089068	Kohl, J., "The Kerberos Network Authentication Services (V5)," September 1993.

### Exhibit F Publications

MSI089191	Bertino, Elisa, "Data Hiding and Security in Object-Oriented Databases," 1992.
MSI089974	Kim, W., et al., "Features of the ORION Object-Oriented Database System," 1989.
MSI090025	Kelter, U., et al., "Type Level Access Controls for Distributed Structurally Object-Oriented Database Systems," November 1992.
MSI090055	Wong, R., et al., "The SIDOS System: A Secure Distributed Operating System Prototype," October 1989.
MSI090091	OMG Security Working Group, "OMG White Paper on Security," April 1994.
MSI090181	National Computer Security Center, "Trusted Unix Working Group (TRUSIX) Rationale for Selecting Access Control List Features for the UNIX (R) System," August 18, 1989.
MSI093870	UNKNOWN
MSI094278	UNKNOWN
MSI094738	UNKNOWN
MSI095044	Tanenbaum, A.S., "Operating Systems: Design and Implementation," 1987.
MSI095787	Date, C.J., "An Introduction to Database Systems," 4 <sup>th</sup> . Ed., Vol. 1, 1987.
MSI096004	Tanenbaum, A.S., "Modern Operating Systems," 1992.
MSI120670	UNKNOWN
MSI132777	E-mail from Caglar Gunyakti entitled: "Private Test Needed," April 28, 2001.
MSI156788	Clark, Paul, C., et al., "BITS: A Smartcard Protected Operating System," November 1994.
MSI156834	O'Connor, MaryAnn, "New Distribution Option for Electronic Publishers," March 1994.
MSI161724	Blaze, Matt, "A Cryptographic File System for Unix," November 1993.
MSI161742	Ferraiolo, D., et al., "Role-Based Access Control," 1992.
MSI161753	Hardy, N., "The Keykos Architecture," December 1990.
MSI161761	Miller, S.P., et al., "Kerberos Authentication and Authorization System," October 27, 1998.



### Exhibit F Publications

	October 27, 1998.
MSI161797	IBM, "OpenDoc vs. OLE 2.0: Superior by Design," January 1994.
MSI161856	Brickell, E.F., et al., "The SKIPJACK Algorithm," July 28, 1993.
MSI161886	Blaze, M., "Key Management in an Encrypting File System," 1994.
<b>MSI161895</b>	<b>Woo, Thomas, Y.C., et al., "A Framework for Distributed Authorization," November 1993.</b>
MSI161921	Davin, J., et al., "SNMP Administrative Model," July 1992.
<b>MSI161943</b>	<b>Galvin, J., et al., "SNMP Security Protocols," July 1992.</b>
MSI161969	McCloghrie, K., et al., "Definitions of Managed Objects for Administration of SNMP Parties," July 1992.
MSI162040	Case, J., "A Simple Network Management Protocol (SNMP)," May 1990.
MSI162061	Information Systems Audit and Control Association-Montreal Chapter, "Authentication dans les environnements de traitement distribues," undated.
<b>MSI162132</b>	<b>Meyer, C.H., et al., "Cryptography: A New Dimension in Computer Data Security," 1982.</b>
MSI162160	Hewlett Packard Co., "Manager's Guide to MPE/iX Security," April 1994.
MSI162646	Hansen, S.E., et al., "Automated System Monitoring and Notification with Swatch," November 1993.
MSI162654	Bellovin, S.M., "There Be Dragons," August 15, 1992.
MSI162698	Bellovin, S.M., "Encrypted Key Exchange: Password-Based Protocols Secure Against Dictionary Attacks," May 1992.
MSI162729	Brands, S., "Untraceable Off-line Cash in Wallets with Observers," 1993.
MSI162756	White, J.E., "Telescript: The Foundation for the Electronic Marketplace," November 30, 1993.
MSI162788	White, J.E., "Telescript Technology: An Introduction to the Language," 1994.
MSI162820	Johnson, R., "Info on Telescript," December 6, 1994.

### Exhibit F Publications

MSI162830	"An Introduction to Safety and Security in Telescript," undated.
MSI162841	Gosling, J., "Oak Intermediate Bytecodes," 1995.
MSI163014	Kohl, J., et al, "The Kerberos Network Authentication Service," June 30, 1991.
MSI163338	"A Brief History of the Green Project," viewed on March 12, 2002 at < <a href="http://java.sun.com/people/jag/green/index.html">http://java.sun.com/people/jag/green/index.html</a> >.
MSI163355	IBM, "IBM Cryptolope Technology-Executive Summary," viewed on March 13, 2002 at < <a href="http://www-3.ibm.com/software/security/cryptolope/about.html">http://www-3.ibm.com/software/security/cryptolope/about.html</a> >.
MSI163358	IBM, "Key Cryptolope Components," viewed on March 13, 2002 at < <a href="http://www-3.ibm.com/software/security/cryptolope/about.html">http://www-3.ibm.com/software/security/cryptolope/about.html</a> >.
MSI163519	Stubblebine, S.G., "Security Services for Multimedia Conferencing," September , 1993.
MSI163935	NIST & NSA, "Federal Criteria Information Technology Security," Vol. II, Version 1.0, December 1992.
MSI164205	Rashid, R.F., "CMU Computer Science: A 25 <sup>th</sup> Anniversary Commemorative," 1991.
MSI164771	Multics History, visited on October 8, 1991 at < <a href="http://www.multicians.org/history.html">http://www.multicians.org/history.html</a> >.
MSI164842	Halfhill, Tom, R., et al., "Just Like Magic?," February 1994.
MSI168115	Chaum, D., et al., "Wallet Databases with Observers," 1998.
MSI168132	Walker, Bruce, J., et al., "Computer Security and Protection Structures," 1977.
MSI168350	Stallings, W., "Cryptography and Network Security: Principles and Practice," 1999.
MSI173839	Levine, P.H., et al., "Apollo Network License Server," October 1987.
MSI173884	Cabell, D., et al., "Software Protection," May 1985.
MSI173887	Glatzer, H., "The Promise of LANs MIS Back in Control," March 1985.
MSI173893	Cook, S., "Net Results," December 1985.
MSI173905	Kramer, M., "Strength in Numbers," July 22, 1986.

### Exhibit F Publications

MSI175647	Custer, H., "Inside the Windows NT File System," 1994.
MSI175666	Appendix for Custer, H., "Inside the Windows NT File System," 1994.
MSI175722	Index for Custer, H., "Inside the Windows NT File System," 1994.
MSI17573	Solomon, A., "PC Viruses: Detection, Analysis and Cure," November 1991.
MSI175738	Glossary for Solomon, A., "PC Viruses: Detection, Analysis and Cure," November 1991.
MSI175740	Roberts, R., et al., Computel's "Computer Security," 1989.
MSI175764	Bibliography for Shaffer, S.L., et al., "Network Security," 1994.
MSI175788	Contents for Denning, P.J., "Computers Under Attack; Intruders, Worms & Viruses," 1990.
MSI175818	Keyword Index for Horster, P., "Communications and Multimedia Security II," 1996.
MSI175840	Index for Park, J.S., "AS/400 Security in a Client/Server Environment," 1995.
MSI175869	Diffie, et al., "Privacy on the Line: The Politics of Wiretapping and Encryption," 1998.
MSI175904	Bibliography for Diffie, et al., "Privacy on the Line: The Politics of Wiretapping and Encryption," 1998.
MSI175912	Index for Diffie, et al., "Privacy on the Line: The Politics of Wiretapping and Encryption," 1998.
MSI175935	Baker, R.H., "The Computer Security Handbook," 1985.
MSI175944	Hoffman, L.J., "Modern Methods for Computer Security and Privacy," 1977.
MSI176004	Krol, E., "The Whole Internet User's Guide and Catalog," 2 <sup>nd</sup> . Ed., 1992.
MSI176033	Glossary for Krol, E., "The Whole Internet User's Guide and Catalog," 2 <sup>nd</sup> . Ed., 1992.
MSI176183	Holsinger, E., "How Music and Computers Work," 1994.
<b>MSI192494</b>	<b>Bell-Labs Secure Technologies, "Information Vending Encryption System (IVES)™," May 31, 2002.</b>
MSI192652	Rubin, A.D., "Trusted Distribution of Software Over the Internet," 1995.

### Exhibit F Publications

MSI192773	Kohl, J.T., et al., "The Evolution of the Kerberos Authentication Service," undated.
MSI197506	CardTech/SecurTech 94 Conference Proceedings, "Building Foundations for Innovation," April 1994.
MSI198537	Smart Card 1993 Conference Proceedings, "Day 1: Communications and Marketing Systems & Market Overview," 1993.
MSI198579	Chaum, D., "Smart Card 2000," 1991.
MSI198691	Global Projects Group, "Smart Card Technology International: The Global Journal of Advanced Card Technology," undated.
MSI199341	Vittal, J., "Active Message Processing: Messages as Messengers," 1980.
MSI199404	Chaum, D., "Achieving Electronic Privacy," August 1992.
MSI199417	Chaum, D., "Untraceable Electronic Cash," Extended Abstract, 1988.
MSI199425	Schaumüller-Bichl, S., "IC-Cards in High-Security Applications," undated.
MSI199480	Medvinsky, G., et al., "NetCash: A Design for Practical Electronic Currency on the Internet," 1993.
MSI199485	Dukach, S., "SNPP: A Simple Network Payment Protocol," December 1992.
MSI199525	Gifford, D., et al., "The Cirrus Banking Network," August 1985.
MSI199536	National Semiconductor "iPower Technology," undated.
MSI199550	Abadi, M., et al., "Authentication and Delegation with Smart-Cards," October 22, 1990, revised July 30, 1992.
MSI199576	Carnegie Mellon University, "Internet Billing Server," Prototype Scope Document, INI Tech Report, October 14, 1993.
MSI199605	Krajewski, Jr., M., et al., "Concept for a Smart Card Kerberos," 1992.
MSI199612	Krajewski, Jr., M., "Smart Card Augmentation of Kerberos," February 1993.
MSI199618	Krajewski, Jr., M., "Applicability of Smart Cards to Network User Authentication," 1994.
MSI199633	Harty, K., et al., "Case Study: The VISA Transaction Processing System," undated.

### Exhibit F Publications

MSI199645	International Standard, "Bank Card Originated Messages: Interchange Message Specification Content for Financial Transactions," August 15, 1987.
MSI199681	Rivest, R., "The MD5 Message-Digest Algorithm," April 1992.
MSI199700	Voydock, V.L., et al., "Security Mechanisms in High-Level Network Protocols," June 1983.
MSI199736	Needham, R.M., "Adding Capability Access to Conventional File Servers," January 1979.
MSI199738	Gligor, V.D., et al., "Object Migration and Authentication," November 1979.
MSI199743	Chaum, D.L., et al., "Implementing Capability-Based Protection Using Encryption," July 17, 1978.
MSI199755	Gifford, D.K., "Cryptographic Sealing for Information Secrecy and Authentication," April 1982.
MSI204966	Johnson, H.L., et al., "A Secure Distributed Capability Based System," 1985.
MSI204983	Tanenbaum, A.S., et al., "Distributed Operating Systems," December 1985.
MSI205081	Voydock, V.L., et al., "Security Mechanisms in High-Level Network Protocols," June 1983.
MSI205118	Rushby, J.M., "Design and Verification of Secure Systems," 1981.
MSI205137	Clark, P.C., et al., "BITS: A Smartcard Protected Operating System," November 1994.
MSI205190	Brumm, P., et al., "80386/80486 Assembly Language Programming," 1993.
MSI205529	Hutt, A.E., et al., "Computer Security Handbook," 1988.
MSI205548	Brown, C.W., "Security for Minicomputers and Microcomputers," (undated).
MSI205621	The Risks Digest, "Forum on Risks to the Public in Computers and Related Systems," Vol. 15; Issue 39, January 21, 1994
MSI205633	The Risks Digest, "Forum on Risks to the Public in Computers and Related Systems," Vol. 15; Issue 47, February 9, 1994.
MSI205648	Halfhill, T.R., et al., "Agents on the Loose," February 1994.
MSI205650	Wayner, P., "Agents Away," May 1994.

### Exhibit F Publications

MSI205659	Hawk, H.S., "RSA & General Magic," email to Good Guys, January 6, 1994.
MSI205660	Byte.com, "Speaking the Same Language," May 1994.
MSI205749	Atkins, D., et al., "The Magic Words are Squeamish Ossifrage," (undated).
MSI205967	Schill, A., et al., "Mobility Aware Multimedia X. 400 e-mail: A Sample Application Based on a Support Platform for Distributed Mobile Computing," undated.
MSI205981	National Institute of Standards and Technology, "History of Computer Security: Early Computer Security Papers, Part 1," 1998.
MSI206028	Department of Defense Standard, "Department of Defense Trusted Computer System Evaluation Criteria," December 1985.
MSI206144	Department of Defense Computer Security Center, "Department of Defense Password Management Guideline," April 12, 1985.
MSI206178	"Guidance for Applying the Department of Defense Trusted Computer System Evaluation Criteria in Specific Environments," <a href="http://www.radium.ncsc.mil/tpep/library/rainbow/CSC-STD-004-85.html">http://www.radium.ncsc.mil/tpep/library/rainbow/CSC-STD-004-85.html</a> , June 25, 1985.
MSI206672	Forcht, K.A., "Computer Security Management," 1994.
MSI206764	Olivier, M.S., et al., "DISCO: A Discretionary Security Model for Object-Oriented Databases," 1992.
MSI206777	Olivier, M.S., "A Multilevel Secure Federated Database," 1994.
MSI206951	"iOpener," Registered Trademark of National Semiconductor Corporation, Registration date October 4, 1994.
MSI206952	U.S. Patent and Trademark Coversheet for National Semiconductor Corporation "iOpener" Trademark, Registration date October 4, 1994.
MSI206982	UNKNOWN
MSI207089	Leary, P., "Are There Ciphers in Shakespeare?," 1995.
MSI207745	Toohey, J., "Using OLE 2.X in Application Development," 1994
MSI207781	Holzner, S., "Heavy Metal OLE 2.0 Programming," 1994.
MSI207820	Sheridan Software Systems, "Data Widgets 2.0: OLE Controls for Database Application Development," 1993-1995.

### Exhibit F Publications

MSI207847	van Gillswe, F., "The Undocumented PC: A Programmer's Guide to I/O, Cpus, and Fixed Memory Areas," 1994.
MSI207873	Short, K.L., "Microprocessors and Programmed Logic," 1981.
MSI207998	Table of Contents: Motorola MC68030 User's Manual, undated.
MSI208023	Mullender, S., "Distributed Systems," 1989.
MSI208222	Orfali, R., et al., "The Essential Distributed Objects Survival Guide," 1996.
MSI208280	Lockhart, Jr., H.W., "OSF DCE Guide to Developing Distributed Applications," 1994.
MSI208321	Open Software Foundation, "OSF DCE Administration Guide-Core Components," 1993.
MSI208364	Rosenberry, W., et al., "Distributing Applications Across DCE and Windows NT," 1993.
MSI208434	Shirley, J., "Guide to Writing DCE Applications," 1 <sup>st</sup> Ed. 1992.
MSI208465	Shirley, J., et al., "Guide to Writing DCE Applications," 2 <sup>nd</sup> Ed. 1994.
MSI208843	Honeyman, P., "Digest of the First UNSENIX Workshop on Electronic Commerce (EC 95)," July 1995.
MSI209487	Rubin, A.D., "Trusted Distribution of Software Over the Internet," 1995.
MSI209496	Tanenbaum, A.S., et al., "Experiences with the Amoeba Distributed Operating System," 1990.
MSI209525	Tanenbaum, A.S., et al., "The Amoeba Distributed Operating System-A Status Report," 1991.
MSI209547	Tanenbaum, A.S., et al., "The Amoeba Distributed Operating System," 1990.
MSI209692	Kim, G.H., et al., "The Design and Implementation of Tripwire: A File System Integrity Checker," November 19, 1993.
MSI209713	Farmer, D., "The COPS Security Checker System," July 10, 1992.
MSI209854	Kohl, J.T., et al., "The Evolution of the Kerberos Authentication System," 1991.
MSI209981	Lewontin, S., et al., "The DCE Web Project: Providing Authorization and Other Distributed Services to the World Wide Web," February 22, 2002.

### Exhibit F Publications

MSI210379	Mann, C.C., "Homeland Insecurity," September 2002.
MSI210403	Boone, J.V., et al., "The Start of Digital Revolution: SIGSALY Secure Digital Voice Communications in World War II," December 10, 2002.
MSI210421	Weadon, P.D., "The SIGSALY Story," December 10, 2002.
MSI210447	"iOpener," Registered Trademark of National Semiconductor Corporation, Registration date October 4, 1994.
MSI210496	Schill, A.B., et al., "DC++: Distributed Object-Oriented System Support on top of OSF DCE," 1993.
MSI210517	Schill, A.B., et al., "DCE-The OSF Distributed Computing Environment Client Server Model and Beyond," October 1993.
MSI210522	Rosenberry, W., et al., "Understanding DCE," 1992.
MSI210838	Karger, P.A., et al., "A VMM Security Kernel for the VAX Architecture," 1990.
MSI210856	Landwehr, C.E., et al., "A Taxonomy of Computer Program Security Flaws," September 1994.
MSI210900	Landwehr, C.E., "Formal Models for Computer Security," September 1981.
MSI210941	Young, W.D., "Verifiable Computer Security and Hardware: Issues," September 1991.
MSI210984	Cybenko, G, et al., "Cognitive Hacking: A Battle for the Mind," 2002.
MSI211023	National Security Agency, "Security Enhanced LINUX," December 10, 2002.
MSI211026	National Security Agency, "Korean War Commemoration," December 10, 2002.
MSI211071	National Security Agency, "Guide to the Secure Configuration and Administration of Microsoft Exchange 5.x <sup>®</sup> ," June 20, 2002.
MSI211133	National Security Agency, "Microsoft Office 97 Executable Content Security Risks and Countermeasures," December 20, 1999.
MSI211180	Bartock, P.F., et al., "Guide to Securing Microsoft Windows NT Networks," September 18, 2001.
MSI211325	Bickel, R., et al., "Guide to Securing Microsoft Windows XP," October 30, 2002.



### Exhibit F Publications

MSI211504	National Security Agency, "SIGSALY Secure Digital Voice Communications in World War II," December 10, 2002.
MSI211515	Distributed Computing Environment, "DCE Technology at Work," December 13, 2002.
MSI211582	Kent, S., "Part II: Certificate-Based Key Management," February 1993.
MSI213017	Saydjari, O.S., et al., "LOCK Trek: Navigating Uncharted Space," 1989.
MSI213026	Saydjari, O.S., et al., "LOCK Trek: Navigating Uncharted Space," 1989.
MSI213042	Karger, P.A., et al., "Multics Security Evaluation: Vulnerability Analysis," June 1974.
MSI213076	Aucsmith, D., et al., "Common Data Security Architecture," January 22, 1996.
MSI213088	Jaeger, T, et al., "Support for the File System Security Requirements of Computational E-Mail Systems," November 1994.
MSI213206	Tirkel, A.Z. et al., "Electronic Water Mark," (undated).
MSI213211	van Schyndel, R.G., et al., "A Digital Watermark," (undated).
MSI213214	Kurak, C., et al., "A Cautionary Note On Image Downgrading," 1992.

# **EXHIBIT G - Patents**

MSI023624-44	MSI163500	MSI212418-22
MSI023734-69	MSI163664	MSI212423-32
MSI023803-9	MSI163763	MSI212433-48
MSI029229	MSI163791	MSI212449-63
MSI029230	MSI168646	MSI212464-471
MSI036205-19	MSI168647-659	MSI2124690-501
MSI080838-58	MSI168660-754	MSI212615-41
MSI082687-99	MSI173420-838	MSI212642-62
MSI088149	MSI184171-191	MSI212663-74
MSI088161	MSI187425-477	MSI212675-97
MSI088513	MSI187550-625	MSI212698-706
MSI088524-49	MSI2012502-22	MSI212736-43
MSI088550	MSI204898-932	MSI212744-61
MSI089473-81	MSI204933-965	MSI212762-69
MSI089482-514	MSI205493-499	MSI212770-78
MSI089539-47	MSI205500-522	MSI212779-90
MSI089548	MSI205828-844;	MSI212791-807
MSI089604	MSI212472-89	MSI212808-40
MSI089686-93	MSI205845-864	MSI212841-60
MSI089700-05	MSI207029-048	MSI212861-76
MSI089706-15	MSI207049-088	MSI212877-87
MSI089776	MSI210261-83	MSI212888-901
MSI089806-13	MSI210284-96	MSI212902-10
MSI089814-28	MSI210330-57	MSI212911-21
MSI089842-48	MSI210358-78	MSI212922-49
MSI089849-63	MSI210579-600	MSI212950-62
MSI089864-71	MSI210601-16	MSI212963-73
MSI160834-1126	MSI210652-69	MSI212974-3016
MSI162608-29	MSI211661-951	MSI213066-75
MSI162630-45	MSI212012-19	MSI213097-107
MSI162959-3013	MSI212020-51	MSI213108-40
MSI163080-116	MSI212201-36	MSI213141-78
MSI163117	MSI212237-45	MSI213179-91
MSI163128-168	MSI212246-53	MSI213192-205
MSI163192-214	MSI212254-300	MSI213221-29
MSI163254-337	MSI212344-53	MSI213230-39
MSI163419	MSI212354-61	MSI213240-48
MSI163432	MSI212362-74	MSI213249-57
MSI163463	MSI212375-79	MSI213258-61
MSI163487	MSI212380-417	

**Exhibit G - Microsoft's Patent Local Rule 4-2 Disclosure (Limited to "Mini-Markman" Claims)**

<u>BATES NO.</u>	<u>PATENT NO.</u>	<u>ISSUE DATE</u>	<u>INVENTOR</u>
MSI023624	5,138,712	August 11, 1992	Corbin
MSI023734	5,113,518	May 12, 1992	Durst, Jr. et al.
MSI023803	4,941,175	July 10, 1990	Enescu et al.
MSI029229	5,940,504	August 17, 1999	Griswold
MSI029230	4,020,326	April 26, 1977	Coulthurst
MSI036205	4,937,863	June 26, 1990	Robert et al.
MSI080838	4,827,508	May 2, 1989	Shear
MSI082687	4,609,777	September 2, 1986	Cargile
MSI088149	5,966,440	October 12, 1999	Hair
MSI088161	5,191,573	March 2, 1993	Hair
MSI088513	4,866,769	September 12, 1989	Karp
MSI088524	5,291,598	March 1, 1994	Grundy
MSI088550	5,014,234	May 7, 1991	Edwards, Jr.
MSI089473	3,996,449	December 7, 1976	Attanasio et al.
MSI089482	4,104,721	August 1, 1978	Markstein et al.
MSI089539	4,183,085	January 8, 1980	Roberts et al.
MSI089548	4,246,638	January 20, 1981	Thomas
MSI089604	4,442,484	April 10, 1984	Childs, Jr et al.
MSI089686	4,471,216	September 11, 1984	Herve
MSI089700	4,523,271	June 11, 1985	Levien
MSI089706	4,525,599	June 25, 1985	Curran et al.
MSI089776	4,562,305	December 31, 1985	Gaffney, Jr.
MSI089806	4,598,288	July 1, 1986	Yarbrough et al.
MSI089814	4,599,489	July 8, 1986	Cargile
MSI089842	4,609,985	September 2, 1986	Dozier
MSI089849	4,621,321	November 4, 1986	Boebert et al.
MSI089864	4,621,334	November 4, 1986	Garcia
MSI160834	5,603,031	February 11, 1997	White et al.
MSI162608	5,577,209	November 19, 1996	Boyle et al.
MSI162630	5,369,702	November 29, 1994	Shanton
MSI162959	5,206,951	April 27, 1993	Khoyi et al.
MSI163080	5,724,425	March 3, 1998	Chang et al.
MSI163117	4,995,082	February 19, 1991	Schnorr
MSI163128	5,689,565	November 18, 1997	Spies et al.
MSI163192	5,689,566	November 18, 1997	Nguyen
MSI163254	5,649,099	July 15, 1997	Theimer et al.
MSI163419	4,816,655	March 28, 1989	Musyck et al.
MSI163432	5,892,899	April 6, 1999	Aucsmith et al.
MSI163463	5,390,297	February 14, 1995	Barber et al.
MSI163487	5,956,408	September 21, 1999	Arnold
MSI163500	5,625,693	April 29, 1997	Rohatgi et al.
MSI163664	4,259,720	March 31, 1981	Campbell
MSI163763	4,321,672	March 23, 1982	Braun et al.
MSI163791	5,636,276	June 3, 1997	Brugger
MSI168646	5,956,408	September 21, 1999	Arnold (File History)
MSI168647	5,956,408	September 21, 1999	Arnold
MSI168660	5,956,408	September 21, 1999	Arnold (Application)
MSI173420	5,390,297	February 14, 1995	Barber et al.
MSI184171	5,365,587	November 15, 1994	Campbell et al.
MSI187425	5,373,440	December 13, 1994	Cohen et al.
MSI187550	5,557,798	September 17, 1996	Skeen et al.

**Exhibit G - Microsoft's Patent Local Rule 4-2 Disclosure (Limited to "Mini-Markman" Claims)**

MSI212502	5,490,216	February 6, 1996 Richardson, III
MSI204898	5,715,314	February 3, 1998 Payne et al.
MSI204933	5,724,424	March 3, 1998 Gifford
MSI205493	5,432,851	July 11, 1995 Scheidt et al.
MSI205500	5,369,707	November 29, 1994 Follendore, III
MSI205828	5,432,928	July 11, 1995 Sherman
MSI212472	5,432,928	July 11, 1995 Sherman
MSI205845	5,301,326	April 5, 1994 Linnett et al.
MSI207029	5,319,735	June 7, 1994 Preuss et al.
MSI207049	5,450,490	September 12, 1995 Jensen et al.
MSI210261	5,164,988	November 17, 1992 Matyas et al.
MSI210284	5,699,427	December 16, 1997 Chow et al.
MSI210330	4,926,480	May 15, 1990 Chaum
MSI210358	4,529,870	July 16, 1985 Chaum
MSI210579	5,361,359	November 1, 1994 Tajalli et al.
MSI210601	5,325,524	June 28, 1994 Black et al.
MSI210652	5,802,590	September 1, 1998 Draves
MSI211661	6,016,393	January 18, 2000 White et al.
MSI212012	5,199,074	March 30, 1993 Thor
MSI212020	5,367,621	November 22, 1994 Cohen et al.
MSI212201	5,129,084	July 7, 1992 Kelly, Jr. et al.
MSI212237	5,150,407	September 22, 1992 Chan
MSI212246	5,199,066	March 30, 1993 Logan
MSI212254	5,204,897	April 20, 1993 Wyman
MSI212344	5,263,157	November 16, 1993 Janis
MSI212254	5,263,165	November 16, 1993 Janis
MSI212362	5,276,901	January 4, 1994 Howell et al.
MSI212370	5,283,830	February 1, 1994 Hinsley et al.
MSI212375	5,287,407	February 15, 1994 Holmes
MSI212380	5,335,346	August 2, 1994 Fabbio
MSI212418	5,337,357	August 9, 1994 Chou et al.
MSI212423	5,343,526	August 30, 1994 Lassers
MSI212433	5,349,642	September 20, 1994 Kingdon
MSI212449	5,359,721	October 25, 1994 Kempf et al.
MSI212464	5,371,792	December 6, 1994 Asai et al.
MSI212490	5,440,634	August 8, 1995 Jones et al.
MSI212615	5,845,281	December 1, 1998 Benson et al.
MSI212642	4,529,870	July 16, 1985 Chaum
MSI212663	4,573,119	February 25, 1986 Westheimer et al.
MSI212675	4,578,530	March 25, 1986 Zeidler
MSI212698	4,590,552	May 20, 1986 Gutttag et al.
MSI212736	4,683,968	August 4, 1987 Appelbaum et al.
MSI212744	4,780,821	October 25, 1988 Crossley
MSI212762	4,796,220	January 3, 1989 Wolfe
MSI212770	4,864,616	September 5, 1989 Pond et al.
MSI212779	4,868,736	September 19, 1989 Walker
MSI212791	4,888,798	December 19, 1989 Earnest
MSI212808	4,893,248	January 9, 1990 Pitts et al.
MSI212841	4,893,332	January 9, 1990 Brown
MSI212861	4,953,209	August 28, 1990 Ryder, Sr. et al.
MSI212877	4,962,533	October 9, 1990 Krueger et al.
MSI212888	4,975,878	December 4, 1990 Boddu et al.
MSI212902	5,022,080	June 4, 1991 Durst et al.
MSI212911	5,027,397	June 25, 1991 Double et al.

**Exhibit G - Microsoft's Patent Local Rule 4-2 Disclosure (Limited to "Mini-Markman" Claims)**

MSI212922	5,032,979	July 16, 1991 Hecht et al.
MSI212950	5,058,162	October 15, 1991 Santon et al.
MSI212963	5,065,429	November 12, 1991 Lang
MSI212974	5,109,413	April 28, 1992 Comerford et al.
MSI213066	5,383,113	January 17, 1995 Kight et al.
MSI213097	5,524,933	June 11, 1996 Kunt et al.
MSI213108	4,672,605	June 9, 1987 Hustig et al.
MSI213141	5,103,459	April 7, 1992 Gilhousen et al.
MSI213179	3,845,391	October 29, 1974 Crosby
MSI213192	DE 29 43 436 A1	October 26, 1979 (filed) Szepanski
MSI213221	5,574,962	November 12, 1996 Fardeau et al.
MSI213230	5,581,800	December 3, 1996 Fardeau et al.
MSI213240	5,787,334	July 28, 1998 Fardeau et al.
MSI213249	5,721,788	February 24, 1998 Powell et al.
MSI213258	5,079,648	January 7, 1992 Maufe

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☐ FADED TEXT OR DRAWING
- ☐ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☒ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**